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JOURNAL OF MEDICINE

EDITED BY

Dr. S. M. BEMISS & Dr. W. S. MITCHELL.

Vol. XXIII.] JANUARY, 1870. [No. I.

*"Tota philosophia frugifera et fructuosa, nec ulla pars ejus inculta
ac deserta sit."*—CICERO.

NEW ORLEANS:

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To Geo. E. Warring, Jr., Esq.

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To the Subscribers of the Journal.

AN APOLOGY.

I deem it due to the Proprietor and Editors of the JOURNAL, to state to the subscribers, that the late appearance of this number is owing to a severe attack of sickness, which so prostrated me that I could not attend to business; and, it having so happened at this particular time, I alone understood the arrangement of the copy and printing.

W. H. LEWIS, *Printer.*

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THE
NEW ORLEANS
JOURNAL OF MEDICINE.

JANUARY, 1870.

ORIGINAL COMMUNICATIONS.

ART. I.—*Vital Statistics of New Orleans*: By STANFORD E. CHAILLÉ, A. M., M. D., Prof. Physiology and Pathological Anatomy, Medical Department, University of La. ✓

"Fais ce que je dois, adviennne que pourra."

INTRODUCTORY.

IN 1868, it was agreed between my friend and colleague, Prof. S. M. Bemiss, and myself, that we would undertake, as appropriate to our official positions, the study of the "Sanitary History and Condition of New Orleans." It was decided to avoid all theories, and to deal solely with facts as recorded by the most reliable authorities; so arranging these as to show plainly the practical conclusions logically deducible from them. It was hoped that a study thus prosecuted would aid the profession and the public to arrive at a common conclusion in regard to many things, which though indisputable are disputed. Until unanimity can be secured in the profession, it has little right to complain of the indifference and ignorance of its pupil, the public, in regard to those questions of vital sanitary importance, which solved by the former, can be executed only by the latter.

My colaborer having selected the medical and hygienic laws of this State and city as his portion of our subject, left to me

whose professorial duties are devoted to life and death, the record of the living and the dead of New Orleans.

Prevalent prejudices render necessary some introductory remarks in reference to these researches into the vital statistics of this city; 1st, as to the value of vital statistics; 2d, as to the method pursued by the writer; and, 3d, as to the general conclusions fairly deducible from these researches.

I. Many contend that no reliance is to be placed upon medical statistics, for that anything can be proved by figures. A little reflection ought to show that figures are like words, and that anything can be proved by either, *provided* only the premises be granted;—and that he, who is more readily deceived by the one than by the other, owes it to the faulty construction or education of his own mind, rather than to any special superiority of figures over words to convey falsehoods.

It is true that figures express facts with great exactness, and therefore it is indispensable that they should be absolutely precise to justify a perfectly accurate conclusion. Unfortunately, this precision is rarely attainable in vital statistics. But if the figures approximate precision, they lead to an approximative, if not absolute truth; and the oftener the evidence be repeated, and the more various the witnesses, the nearer do the conclusions approach absolute accuracy. Even when medical statistics fail to yield strictly scientific results, they never fail when properly studied “to indicate probabilities and suggest research.”

The practical benefits derived from vital statistics are incalculable. Hygiene has here its surest foundation, and thus has sprung into existence the great characterizer of modern civilization, State Medicine;—which in every well governed country, has done and is daily doing more for human health and life “than all the drugs which were ever discovered, or administered to suffering humanity.” By vital statistics alone can be determined the comparative health of different places, and even as is constantly done of very limited portions of the same town. Such differences establish at once, that different causes are at work; and the search for these and their remedies has proved so successful, that the modern hygienist can proudly and truthfully boast (somewhat as did Themistocles) that he knows

how to convert a sickly and enervated people, into a healthy and vigorous population. Unfortunately this knowledge can only be practically applied by the official agents of the people, whose culpable indifference and ignorance are chargeable with an amount of avoidable annual mortality, in comparison with which that by wars, tornados, and earthquakes are as a few drops to a vast ocean; and the lives rescued from this mortality by our pills are much fewer than supposed. That noble modern institution, Life Insurance, with all its enormous pecuniary interests, owes its origin and deserved success exclusively to vital statistics; whose many other merits are so great, that to prove them to an intelligent man ought to be a labor of supererogation.

Some three or four of the more important classes of facts investigated in this, as in all other researches of vital statistics will be indicated, as also those causes of error, as to which the seeker for truth should be on his guard. The chief practical facts sought for are as follows:

1st. The ratio of annual deaths to the total population, or the death rate. This requires solely a correct account of the living and dead, which demands much care but no skill. Therefore the results are generally the most reliable of those obtained from vital statistics.

2d. The ratio of the deaths by every special disease to the total population, and to the total deaths, *i. e.*,—the prevalency and fatality of every disease. This demands imperatively the correct diagnosis of every case of disease which has terminated fatally. All know the shortcomings of the profession in this regard; and when is added to these, the shameful fact, that many most ignorant non-professional persons are permitted in New Orleans to give a certificate of death, no sensible man will attach undue importance to such statistics. They may be trusted in regard to classes of disease perhaps, and to such particular diseases as are popularly well known; such as consumption, syphilis, etc. The difference which exists between the ratio of deaths by a particular disease to the total population, and to the total deaths, is a cause of frequent error which may be thus illustrated: The ratio of deaths, by consumption, in New Orleans, to the total population is very large, whilst this ratio to the total

deaths is comparatively small; and for the reason that the total of all deaths in New Orleans is comparatively very large. Observation of this small ratio in the one case, without proper consideration of the large ratio in the other, has induced many to make the very erroneous assertion that consumption was neither so prevalent nor fatal here as in most other places. (See report of 1856-60.) As a general rule the ratio of deaths by a special disease to the total population is a far more correct test of the comparative prevalence and fatality of such disease, than its ratio to the total deaths.

3d. The ratio of deaths by a special disease to the total number of cases of the same disease, *i. e.*, the chance of recovery when attacked by this disease. The practical interest in this question is very great, but the causes of error are numerous and very potent. It is chiefly in consequence of the gross abuse of this branch of medical statistics by the ignorant and the interested, that they have been brought into undeserved disrepute by many, who for the most part are too indolent and careless to labor as earnestly as is necessary, for the truth. We find here the rich pasture field, where quacks out of, as well as in the profession, are wont to feast the credulous to the advantage of their own individual vanity and profit. All such statistics to deserve credence should have one of two guarantees; either that all observers give the same result; or that any one observer should be known to be thoroughly disinterested, honest, and competent. My acquaintance with men of this kind is remarkably limited. However, notwithstanding all the powerful causes of error; the virtues of quinine, opium, of most remedies, and thousands of our most valuable facts, all owe the confidence reposed in them to statistics of this last kind; which we must continue to use until the invaluable empiricism on which medicine still reposes has given place to a perfect science.

II. *Method pursued in this study.*

Prospective fault finders are respectfully referred to the bibliography accompanying this article, where will be found the sources of the facts recorded in what follows; preference having been always given to the official figures. In every case of doubtful

authority, the legal maxim, that to innocence belongs a doubt, has been observed, and all such facts cast in favor of the sanitary reputation of New Orleans. Let it be well understood that whilst I am responsible for the conclusions drawn from the premises, I am not at all responsible for the accuracy of the premises themselves. If falsehoods be recorded, they are certainly not mine, but those in chief part of every Board of Health, and of every census ever taken by both Spain and the United States. To invalidate the general conclusions it must be proved that the reports, not of one year, but of most of the years were false ; that these reports were not simply false in minor particulars and small degree, but that they did not even approximate the truth ; and that they were not only grossly false, but that they were more false for New Orleans than similar reports are for other cities. The repeated error of others renders it necessary to warn the reader that these researches seek approximative and *comparative*, rather than absolute truth ; and therefore that every addition or deduction made for one city, must be made for all with which it is compared, and to which it is similarly circumstanced.

It is not pretended that no errors have been committed by the writer, whose tastes and habits are certainly not devoted to arithmetical calculations ; but such conscientious care has been taken that it is confidently believed that no errors will be found of sufficient magnitude to invalidate the practical conclusions. As an additional safeguard, the original official figures from which the calculations were deduced have generally been given to enable the reader to test the accuracy of the latter. None need doubt that my love of truth is strong enough to enable me to accept with gratitude rather than with resentment the aid of any, who though by correcting errors they may blockade the road of vanity, will open freely the pathway of truth ; which alone is the object of these researches.

Neither is it pretended that the comparative tables are in every case fair comparisons, but it is asserted that they are as fair as any which my knowledge and materials supply. Their defects in some particulars are well known.

It will be found that much labor has been bestowed on establishing the fact of chief practical importance, the death rate; that comparatively few conclusions have been drawn from the ratio of deaths by special diseases to either the total population or total deaths; and that the only thing done to establish the chances of recovery by each disease has been to record in Table No. 6, the deaths and discharges by each disease in the Charity Hospital. As a relatively larger number of the worst cases seek this hospital, its figures present of course the worst possible view of the subject, and the best to be said of them is that they "suggest research."

The present article is devoted more especially to the Vital Statistics of New Orleans prior to the war. Two subsequent articles are contemplated, a second to embrace the period of the war 1862-65, and a third to cover the time from 1866 to the publication of the census of 1870;—when, the five years 1856-60 now studied will be compared with the five years subsequent to the war, 1866-70, and by which time it is hoped that something approaching truth will be finally established, and generally accepted.

Cordial thanks are due by me to so many friends for the aid given and the materials supplied, that I hesitate to record their names. Past circumstances, however, render it a pleasant duty for me, an ex-rebel, to testify before a Southern professional audience to the cordial assistance given by Surgeon General Barnes, U. S. A., and his aid, Dr. J. J. Woodward, U. S. A., and to Surgeon Jno. F. Randolph, Medical Director of this Department.

To all of these, and especially to Dr. Woodward, will be due those facts which will enable me to record the Sanitary History of this city, during a period of great interest and very great importance, 1862—1866.

The method of study pursued claims one great superiority over the plan most generally adopted. A superiority to which it is desired to call the particular attention of all Boards of Health, and those whose duty requires annual mortality reports. In every table, as of deaths by nativities, races, sexes, ages, etc., the figure indispensable to an instructive conclusion, viz., the population of these various specifications is invariably given.

Were this plan generally adopted, it would very greatly aid the student of this very important branch of medicine.

The present article is divisible into two parts; 1st. General researches into the death rate of New Orleans from 1787 to 1869, and, 2d; Special researches in the Vital Statistics of the five years, 1856—1860. These years have been selected for particular study for the reasons, that the official reports of them are believed to be more reliable than for other years; they are the five healthiest years in a consecutive series of which we have any records; and immediately preceding the war they will naturally become the *point du depart* for comparison with different circumstances and years subsequent to the war.

In closing this portion of my subject attention is called to the fact that in the record of all years and months by me, (not always in the quotations) the figures, as 1856-60, include both numbers, and indicate five years; also that the ratio to one thousand is invariably used as the most convenient, and is reducible by the most simple arithmetical process to the ratio per cent., or the ratio of one dead to so many living, both of which are often used by others.

III. *General Conclusions.*

These depend on the researches which follow, and though first to be read, were the last to be written. The facts and figures in these researches were derived from the reports of our own officials, who have nothing to gain and much to lose by injurious misrepresentations of New Orleans; though these officials have been frequently changed, the purport of their figures has not changed; and their reports have been accepted for the payment of accounts, for taxation, representation, and for everything except vital statistics. The various tables prepared on this subject, prepared as I alone well know, without regard the one to the other, all unite in harmony to express one invariable result, viz., that New Orleans has been one of the most unhealthy cities in the United States.

Therefore the conclusion is unavoidable, either that we ourselves through our agents have always published, and continue to publish official reports grossly false; or that these reports indi-

cate a fearful truth. In either case it is manifest that an all important duty has been neglected by our citizens; for they have the power to rectify either or both evils.

If these reports be accepted, then they prove conclusively, as will be shown, that New Orleans has been an unhealthy city not only during her epidemics, but also when free from them; not only extremely unhealthy from May to November, but also fails to attain the standard of a healthy death rate from November to May; not only unhealthy for foreigners, but also for natives; not only for the whites, but also for the blacks, and not only for youthful manhood, but also for infancy alas! and for old age. That a city located in the Tropical Disease Realm, environed by undrained swamps, and shamefully notorious for its unsewered streets, and the heaps of decomposing garbage which rot unmolested in its sluggish gutters should enjoy an average degree of health, would constitute a violation of the best recognized laws of Nature, and prove modern sanitary science a tissue of unblushing falsehoods. These assertions from a physician and citizen having his past, his future, all his affections and interests in New Orleans, can only be justified by the hope that good may grow out of them, and by presenting such proofs of their truth, as have thoroughly satisfied his own judgment. In fact my convictions on this subject are as profound as those which incited Peter the Hermit to urge the crusaders on to the Holy Sepulchre, or as moved the voice and pen of Luther to inflict those wounds from which Rome still bleeds.

I have been advised that this publication would injure the sanitary reputation of this city. It has no such reputation outside of its own credulous inhabitants. I have been told that immigration, and thus our progress to greater prosperity would be retarded. But shall I for immigrants and profit suppress the truth, and silence the pleadings of my conscience in behalf of the health of my fellow citizens, and the lives of their helpless children? Ought a doubtful gain for the present generation, to outweigh a great and permanent benefit, for those we love most, the children to follow us? Shall I forfeit my self-respect, by fearing that honest convictions founded on our public records may be answered by the censure and ridicule which greet unwel-

come truths? It must be a very frail reputation which the pen of any one man can endanger, and a very poor cause which trembles before the truth.

After all who, out of the profession, will hear, much less heed the feeble voice which only repeats an old story often told by those abler than mine? Remember, that after the telling, the prosperity of New Orleans continued to float from above down the current of the Father of Waters; and alas! remember also, that we have continued to indulge the criminal indolence, which still permits unreclaimed morasses to pour out their pestilential malaria on the city they encroach upon; our streets, gutters and privies to reek with filth, belch forth their nauseous odors, poison every inspiration of the air we breathe, and thus hasten annually to their graves thousands of lives. Lives which the wave of annual immigration, so largely composed of needy ignorants, shiftless spendthrifts, and tarnished adventurers, replaces with poor advantage to the permanent welfare of this city. These immigrants will not be deterred by my representations, but will continue to come so long as money bags are plentiful, though their chances of dodging the devil were much less than they are. May a greater effect be produced on those for whom alone I write, those honest fellow citizens who seek the truth, and when it is found have character enough to act upon it.

Had we not better take to heart, and induce our daily papers to apply at home the advice so freely and even pathetically urged upon our neighboring planters, viz., to raise their stock at home. Our stock, the resident men and women, and the native children, are permitted to live and struggle against conditions as unfavorable to health and life, as even brute animals are rarely compelled to undergo in comparative degree. Why is it that an enlightened public press gives eloquent and potent aid to the Mouths of the Mississippi, the Texas Railroad, and all laudable commercial enterprises, and yet remains almost silent as to improvements of far more moment than all others, the drainage and sewerage of this city, and such other sanitary reformations as would very certainly result eventually in rescuing annually thousands of lives from an untimely grave? It seems to wait,

like its patron, the public, for another overwhelming pestilence, such as the great epidemic of 1853, which galvanized them into a few spasmodic efforts, resulting in some ill-digested and worse executed laws, organizing a quarantine satisfactory to neither contagionists nor anti-contagionists, and an impotent Board of Health utterly powerless to enforce those things needful for the public health. To know how very evil are these evils, to know that they are remediable, and to be expected to live under them, not only silently but even to praise their baneful results is demanding too much of any honest man. Are we like children to go on wondering why human labor is so dear with us, and why our city has comparatively languished in the race of progress, when we rate human life so cheaply, and cause by our negligence an extravagant waste of not only the foreign importation, but also of the home production of it?

But are these evils remediable? The histories of all well governed cities unhesitatingly answer a thousand times yes. Doctors know well the remedies, engineers know well how to apply them, and the people ought to know how to employ both, and to provide the necessary means. A few examples may be given to show what has been done, and can readily be repeated.

It must be borne in mind that it is well established that 11 deaths annually in every 1000 living population are unavoidable; but that any excess over this in healthy countries is preventable.

Cities are more unhealthy than the country, but even for these 17 per 1000 is deemed the very extreme of necessary mortality. But whilst many cities have in occasional years a death rate lower than 17 per 1000, yet as a general average for all cities, 25 per 1000 (25 per cent., or 1 death to every 40 living) is practically regarded at the present day as a fair standard of health; whilst under 20 is deemed very healthy, and over 30 decidedly unhealthy. N. B. Death rate of New Orleans, 1856-1860, the five healthiest years recorded, was 46.3 with, and 39.7 without yellow fever.

In the past forty years, London, Paris, as very many other cities, have, by hygienic measures, reduced their death rate by from 5 to 10 in every 1000 (*i. e.*, about 30 per cent.), and now enjoy the average healthy standard or less, which is not aug.

mented, even by cholera or other epidemics, much, if at all, over 30 deaths per 1000 population.

In the city of Salisbury, the annual average mortality during eight years previous to the *complete drainage* of the city was 27 per 1000; whilst in the succeeding eight years, it was reduced to 21 in 1000. In the city of Ely, the average annual death rate in the seven years, 1843-49, was 26 per 1000; in the year 1851, public sanitary works were brought into operation, and in the seven years 1851-57, the death rate was reduced to 20½, whilst in the last of those years, it was only 19 in the 1000. It was noticeable, that, whilst the death rate in this city was reduced, subsequently to the sanitary improvements from 26 to 19, the annual death rate in the surrounding country was still 21 in 1857.

“When Algeria was first colonized, the mortality in the virgin and singularly humid soil of the Mitidga was enormous, 206 per 1000, and the births scarcely sensible; but now (1868) the deaths are only 24 to the 1000, and there are 39 births to 30 deaths. Researches in Martinique, Guadaloupe, Guiana, and Senegal also prove the truth of the principle that every where the mortality diminishes with the development and perfection of the laws of hygiene; and demonstrate conclusively, that if France wills it, prosperity in Algeria is certain.”

Ancient Rome was extremely unhealthy, the Elder Tarquin, wiser and more powerful than the Common Council of New Orleans, drained it by sewers, when it became comparatively healthy, and the centre of the largest urban population which probably ever existed. When the invading Goths destroyed the aqueducts, filled up and obstructed the sewers, Rome became again the focus of disease. Appius Claudius, 300 years B. C., drained the Pontine Marshes and rendered them inhabitable. This drainage was destroyed by Theodoric's invasion and again these marshes became so sickly as to be uninhabitable. In fact, the past and the present unite experience to science in declaring so loudly, that drainage, sewerage and an adequate supply of pure water are indispensable to health, life and prosperity, that a people who will not heed this declaration does not deserve these blessings.

Innumerable examples could be added to those given, proving that our evils are remediable, and not one example to show that

proper hygienic measures have ever failed to alleviate such evils in very great degree, if not to cure them radically. Thousands of years ago the inspired Moses issued the hygienic order, that thou shalt go forth "*without the camp*," and there cover up "that which cometh from thee;" whilst on every page of modern sanitary science is recorded that: "It has been proved over and over again that nothing is so costly in all ways as disease; and that nothing is so remunerative as the outlay which augments health, and in doing so augments the amount and value of the work done."

For this city the great practical question, and the most profitable investment consists in Drainage and Sewerage, and every intelligent citizen should cry out these words in and out of season, until they become accomplished facts.

It is in place here to remind the reader, resident of New Orleans, that on March 30th, 1869, a board of ten competent engineers, Gen. Braxton Bragg, Chairman, reported to the Common Council, which appointed them, that "the peculiarity of our topography renders the application of this system (underground covered sewerage) both simple and comparatively inexpensive," and express the opinion *confidently* "that the interest on the capital necessary would fall largely within the present ability of the city, and the whole principal would be more than covered by the increased value of property within two years after the works shall have been completed."

Accepting the views of these experts, selected by the Council itself, as to the practicability of underground sewerage, I desire to remind the reader that in recent times, proof has augmented year by year, of the injurious influence upon health and life of accumulations of human ordure, and that it is indispensable that these as all other organic matters should be conveyed "*without the camp*" as quickly as practicable. Our humid heated climate above all others, most favors the rapid putrefaction of all decomposable matter. Now excluding the immense mass of offal and garbage furnished by our animals, our butcheries, our food, our sugar and other manufactories, it is still to be borne in mind, that our 200,000 population furnishes annually not less than 18,250,000, ~~000~~ gallons of urine and 5,000, ~~000~~ tons of solid faecal matter, which are left for a large portion of the year to decompose

within and infect our dwellings; and since all this can be promptly removed only by underground sewerage, there can be no hesitation between this and our present wretched system of surface drainage. It may be added that "the unanimous voice of all men who have studied the drainage question in England, has pronounced in favor of underground sewerage as the only practicable measure for large towns. The recent report of Lt. Col. Ewart seems to settle this question even as to small towns." ✓

A practical result, which deserves special attention, is also demonstrated by these researches. None can deny that they involve questions of great moment, and that if the official reports were thoroughly reliable, and generally credited, the important practical conclusions would be absolutely correct and indisputable. A correct census of this city, and correct annual mortality reports are indispensable to this desirable end, which our City Council, by a few simple laws, a few honest and competent officials, and with very little expense can easily and promptly secure.

I will close these remarks introductory to the study of the *Vital Statistics of New Orleans*, which have occupied three months of arduous and conscientious labor, by stating that I have "to the best of my knowledge and belief stated the truth, the whole truth, and nothing but the truth, so help me God," and that no citizen of New Orleans will rejoice more heartily than I if it can be proved conclusively that my knowledge is false, and my belief founded on records unworthy of confidence.

But if my conclusions be disputed, and even proved false, one great practical fact will remain, that however healthy New Orleans may be, and however prosperous her future, she can never be as healthy and prosperous without, as she surely would be with those sanitary reforms which her "peculiar topography" demands more imperatively than any other city in the United States.

PART I.

General Researches on the Population and Death Rate of New Orleans.

The determination of the death rate of a place depends on the number of the population, and the number of the annual deaths.

The larger the former, and the less the latter, the more favorable the result. As the number of deaths is more readily and accurately determined than of the population, every unhealthy place strives to represent the latter as large as possible. Therefore a little must be said as to the accuracy of the annual deaths reported in New Orleans; and much as to the comparative accuracy of the census of its population, more especially in 1860.

a. No one has ever asserted that the Board of Health reported more deaths than occurred. The sextons have certainly buried in our cemeteries all the bodies reported by them. Examination of the original reports of these sextons, and the records of the Board of Health, has satisfied me, as others have been before me, that the sextons sometimes fail to send in their reports, and in such cases believed to be not infrequent, fewer deaths are reported than actually occurred. Sextons, as other officials of New Orleans, interpret the laws very liberally, and execute them with corresponding laxity.

It is asserted that many non-residents of the city are buried here, and swell the mortality list to our discredit. These non-residents must be either the suburban population, or visitors. As to the former, a considerable number are buried in every city, and when comparing with these, only an excess can be deducted from our list. Our suburban population is comparatively small, and it is probable that all such deaths credited to our list are more than counterbalanced by the deaths and burials of residents out of the city. Philadelphia has had buried in its limits and added to its mortuary list, 1861—1868, from 493 to 919 dead bodies, "from the country" annually. Who can prove anything comparable for this city? As to the visitors or so-called "floating population," who may die and be buried here, the same thing occurs in every city. So the only question is, do we have more comparatively, than other cities. This has been often and confidently asserted, The following facts are submitted: Paris has an average *all the year round* of 200,000 strangers annually, therefore in comparing death rates with Paris, New Orleans being nine times less populous, should have 22,000 strangers *all the year round*. The deaths occurring in any larger number than this can alone be credited to New Orleans.

Neither the number nor size of the various modes of entertaining and conveying strangers, justify the assertion that New Orleans has a larger number of this population comparatively, than London, Paris, New York, Philadelphia, etc., etc. Besides, it must be borne in mind that, since New Orleans has during a large portion of the year comparatively few strangers, a fair comparison demands that during the balance of the year she should have a comparatively much larger number, in order that she may have an equal number for the entire year.

The floating population is in New Orleans from November to May, and the resident population is largely diminished in the summer, and yet the death rate is much higher (with or without yellow fever) from May to November. The floating population does not consist of children under ten years, and yet their death rate is very high. These unquestionable facts would seem to be sufficient to settle this question.

b. The many physicians and citizens of this city who contend that her death rate is a fair one, have been forced to assert that the population has been underestimated by the U. S. census. As the establishment of the correct death rate depends almost wholly on this question, I have given it as careful and impartial examination as is in my power, and present the following series of facts to elucidate it. It must not be forgotten, that the question is not whether the census is absolutely accurate, but whether it is comparatively accurate, whether any greater injustice has been done New Orleans than other cities in the United States.

1. It has been asserted that the United States census has always been taken in the summer, when a large portion of its population was absent, and therefore not numbered in the census. It is probable that New Orleans has a larger number of absentees in summer than other cities. But the legal method of taking the census teaches important facts in this regard. "Assistant Marshals duly qualified," are appointed, required to fill up certain blank forms, and to certify on oath to the following, among other things; that they have visited every house, obtained their information from the head of the family, or in his absence from his agent, or some "member of the family over twenty years of age," and that he has enumerated the name of

"every person whose usual place of abode" was in this family, "including the names of those temporarily absent." In addition, each assistant is allowed "as compensation for his services, after the rate of two cents for each person enumerated." Thus the census takers are pecuniarily interested in not underrating a population, and are not only required to enumerate absent residents, but must swear they have done so, and are paid two cents apiece for every one they swear to. Surely these facts are very far from justifying the assertion that a summer census is necessarily an under estimate.

2. If the United States has done New Orleans comparative injustice, let us see, what has been done by its own officials.

	Total population.
1847—March.—City Census.....	94,526.
1847.—August.—State ".....	79,503.
1847—Aug.—U. S. " (Pro-rata estimate census, 1840 and 1850....	112,000.
1852—City Census (Lafayette included).....	145,449.
1852—U. S. " (" " Pro-rata est. census, 1850-1860)....	137,410.
1859—February.—City Census.....	138,277.
1859—U. S. " " Pro-rata est.....	164,400.

The city census, 1859, gives a population 7,172 less, but 3821 voters more than in 1852, and was generally discredited. These facts prove conclusively that our officials treated us much worse, than did those of the United States, and suggest investigation of the motives in our own eyes.

3. The "British Medical Times and Gazette," publishes in every weekly mortality report, that the 14 largest cities in Great Britain average $35\frac{1}{2}$ inhabitants to every square acre, London and Edinburgh having less than 41.

New Orleans, from its upper to its lower limit, measures in length about seven miles, (as an old resident and *not* as an expert), I estimate its average breadth of the entire seven miles as not exceeding a mile and a quarter, (N. B., from river by Common St., to United States Marine Hospital, is two miles). These estimates yield $8\frac{3}{4}$ square miles, or 5600 square acres. Then, provided New Orleans be as densely populated as the average of the 14 British cities (which none who have seen both will credit for a moment), the population would be now 198,800. Suppose New Orleans occupies 10 square miles, or 6400 square acres, and

be as densely peopled as London and Edinburgh, even then the population would be less than 260,000. These facts do not justify the assertion that our population was underestimated by the census of 1860.

4. Voters. If the white people of New Orleans have been as enthusiastic politicians as those of other cities (a fact which has not been questioned), then a comparison of the total vote cast should furnish an approximative and comparative estimate of the population.

The following Table, of places selected at random from Official Reports, throws light on this subject as to the census of 1860.

Table of Population and Voters in the Presidential Election, November, 1860.

PLACE.	Total population in county.	Total voting population or whites in the Co.	Total population of the city.	Total voting population or whites in the city.	Total No of votes in the county in 1860	Ratio of voters to voting population.
Suffolk Co. (Boston).....	192.700	.....	177.840	.....	22.469	1 to 8.6
New York Co. (N. Y)...	813.669	801.095	805 658	793.186	95.583	1 to 8.3
Baltimore City .....	.....	.....	212.418	184.520	29.786	1 to 6.2
St. Louis Co. (St. Louis).	190.524	184.313	160.773	157.476	24.850	1 to 7.4
Orleans Parish (N. O.)	174.491	149.068	168.675	144 601	10.858	1 to 14.

N. B.—The largest number of voters ever registered in New Orleans prior to the war, was 17,232 in 1859.

Suppose New Orleans cast the smallest vote to population of any of the above cities, viz., Boston, then her white population would have been 93,380, whilst the United States census gave her 144,601. Suppose all her registered voters had voted, even this impossibility would only indicate a white population of 143,195 comparing with Boston, and of course less comparing with the other three cities. Thus it seems that if our own census takers did the city injustice, our voters in 1860 did her far greater injustice.

Examination of the number of voters registered in 1867 in eight States (undergoing reconstruction) showed that the number registered in each State was to the total population in 1860, as 1 to 5.6 very nearly. In Orleans Parish, 36,000 voters were registered,

which would indicate a population in 1860, of 198,600 instead of the 174,491, given by the United States census. Many of those who claim that our poulation has been underrated are the loudest in denunciation of this registration, which was generally discredited.

The only official document, which I have been able to find, which fully justifies the assertion that our population has been grossly misrepresented is the "report of Wm. Baker, Superintendent Registration," which report bitterly complains that very many more whites were registered than should have been, and was also unanimously denounced by the whites as having registered many more blacks than should have been. However, the following brief summary shall receive a place here.

"Registration began September 25th, 1868, and completed October 24th, 1868."

No. refused registration...	250	Supposed to be entitled to vote.
No. whites registered.....	25,679	5488 of these naturaliz'd from July 4 to Oc. 24
No. colored ".....	16,054	
Total vot'rs in Orleans Parish.....	41,983	
Deduct. " in Algiers.....	2,025	750 whites <i>plus</i> 1275 colored.
No. voters in Orleans Parish, excluding Algiers.	39,958	25,179 whites <i>plus</i> 14,779 colored.

The nativities of 38,603 of the above gross total of 41,983 are thus given, viz :

Total Foreign Born.....			13,586.
Total native born,	{	Born in La.,.....	13,268
		" in other Southern States	9050
		" in Free States.....	2699
	}		25,017

No reasonable argument based on even this registration would justify a larger estimate of the population in 1868 than 230,000, and yet I see that our newspaper calculators count 300,000. The above registration indicates 100 colored population to every 169 white population. The mortality report shows in 1868, that there were 100 colored deaths to every 219 white deaths. This indicates an overestimate of the registration, but proves conclusively a very large augmentation since 1860, of the colored population, which I estimate as from 60,000 to 75,000; basing this chiefly on the supposition, that the census of 1860 was nearly correct, and that the negro death rate remains comparatively about the same as before the war.

A comparative record of populations and actual votes in 1868 will close this portion of my subject.

Presidential Vote of 1868.

PLACE.	Population in 1860.	Population claimed in 1868.	Vote cast in 1868.
St. Louis.....	160.773	230.000	29.560
Cincinnati.....	161.044	253.541	31.304
Boston.....	177.840	192.318 (in 1865)	27.566
Baltimore.....	212.418	unknown	30.713
Orleans Parish, including Algiers.....	168.675	unknown	24.263
D. 23,987 <i>plus</i> R. 276.			

The Republicans claim a 10,000 vote, but all know that many of the voters claimed by them were counted in the above 23,987; and in view of all the above facts, and an impartial consideration of the exceptional political conditions and popular excitement attending our present circumstances, I do not think that any calm, impartial judgment can estimate our present population as exceeding 230,000 as the extreme limit, whilst 200,000 is only a fair and safe estimate.

5. Population and Deaths in New Orleans, 1856-60. The following quotation is presented, because it is a representative opinion, and declared by one of the most eloquent and able of all the former Presidents of the New Orleans Board of Health, who says in the report for 1859, that, "either New Orleans has a far larger population than has ever been given it—a truth of which we have long been satisfied—or the ratio of mortality to population is frightfully in advance of any city in christendom." Now, in this report there are given 6,847 deaths for the year, of which 91 of yellow fever, leaving 6,756 deaths of non-epidemic diseases. Of these, 3,529 occurred in the half year May 1st to October 31st, and of these 1,617 were of children "under 10 years of age." Thus it follows, that New Orleans, in order to have been a city of average health, in 1859 (*excluding* her great foe yellow fever) must have had a population all the year round of $(6756 \times 40 =)$ 270,240. From May to November, she must have had a population of $(3,529 \times 2 \times 40 =)$ 282,320, and the 1,617 deaths of children "under 10 years of age" demand a summer population not less than 258,720. Over and over again do very many cities of larger

population than these various numbers call for, give fewer deaths than actually occurred in New Orleans; and cast a vote of some 30,000, whilst New Orleans, in 1859, had only 17,230 voters *registered*, and cast in 1860 a vote less than 11,000. To the year 1860 I have heard a population of 200,000 claimed for New Orleans, but the most riotous imagination fell short of the 273,880 population required in 1859, when no epidemic prevailed, to give her any claim to a healthy death rate. Can any judgment halt in its conclusions, and dally in doubt over the dilemma presented in the above quotation?

No error could be greater than to suppose that the year 1859 was exceptionally bad; on the contrary, the same facts are demonstrable in similar or worse degree for every one of the five *healthiest* years in a series (1856-60) of which we have any reliable records. These five healthy years demand, excluding the yellow fever deaths, that New Orleans should have had as an average for each of the five years a population of 255,552, and including the yellow fever, of 297,432. Whilst, as to the poor little children under 10 years of age, whose deaths excite my sympathy and indignation far, far more than those of that "floating population" of alien immigrants over whom few have failed to moan piteously, the same sad facts received annual confirmation!

Let those who doubt digest the following *reductio ad absurdum*. If the census of 1850 and 1860 be comparatively correct, and if New Orleans be a very healthy place, then, since New Orleans lost annually 1856-1860, 3,072 children "under 10 years of age," and since in a very healthy place the deaths by all ages would not exceed this number, it follows that from 1856-60, New Orleans had no inhabitants over 10 years of age!!

6. Comparative calculations based on the number of physicians in this city, on the number of names in the Directories, and, in fine, on any mode of approximative estimation known to me and in my power, fail to justify the assertion that the U. S. Census of 1860 did this city any comparative injustice.

If all the preceding facts have been duly considered, the reader is now as well prepared as myself to form his own conclusions, as to how much credence is due to the numerous tabular statements which follow. Once more let him be warned, that if they

be false, they are not my falsehoods. As has been stated, they have amply satisfied to lead me to absolute conclusions on some things, to indicate probabilities on many more, and to suggest research on still more.

Five Tables complete the first portion of this article, of which the last two, in regard to the Charity Hospital, have no interest except to the physicians of New Orleans. Table No. 3 deserves the particular attention of all. Whilst Tables of figures are anything but pleasant reading, it is believed that those now published will prove valuable, at least for reference in the future.

Historical Table (No. 1) of the Population and Mortality of New Orleans.

New Orleans founded in 1718; governed by France 1718-1769; by Spain 1769-1803; by United States since 1803. Abbreviations: Est.—estimated and not official; S.—sporadic; M.—mild; E.—epidemic; V.—violent, and V. V., very violent; Y. F.—yellow fever; C.—cholera; Av.—average; U.—unknown. U. S. C.—U. S. Census.

YEARS.	TOTAL POPULATION BY U. S. CENSUS, OFFICIAL.	TOTAL DEATHS BY BOARD OF HEALTH, &C., &C.	NO. OF DEATHS TO EVERY 1000 POPULATION.	OCCURRENCE OF YELLOW FEVER AND CHOLERA.	REMARKS—ESPECIALLY AS TO EVENTS SUPPOSED TO INFLUENCE POPULATION AND MORTALITY.
1769	3190	.....	.....	Y. F. S. perhaps.....	Y. F. E. Biloxi 1702, and Mobile 1705.
1785	4980	.....	.....	.....
1788	5331	.....	.....	.....
1787-97	(10 yrs)	*488 a v	*39.5 av.	Y. F. S. 1791.....	*Estimates given by Dr. E. H. Barton for the ten years.
1796	8056	.....	.....	First Y. F. epidemic.....	1794-97 Carondelet Canal dug.
1797	.....	.....	.....	Y. F. epidemics.....	1801-Y. F. S.
1799 & 1800	.....	.....	.....	"	1807-8-Embargo.
1801-4-9	.....	.....	.....	.....	1812-13-14-War.
1810	17242	.....	.....	1811 and '12 Y. F. E.....	*Estimates of Dr. E. H. Barton for the six years.
1811-15	(6 yrs)	*389 av.	*34.2 av.	.....	Inundation in the spring by crevasse. Year very healthy.
1816	.....	.....	.....	Y. F. V. E.....	1142 total deaths in five months, viz., August to December inclusive.
1817	.....	.....	.....	Y. F. E.....	485 deaths in September.
1818	25,000 est.	1151	46.	"	*Estimates of Dr. E. H. Barton of annual averages.
1819	26,000 est.	2190	84.2	.....
1816-20	.....	*1517 av.	*39.5 av.	Y. F. E.....	
1820	27176	.....	.....	Y. F. E.....	
1822-25	(4 yrs)	*2085 av.	*47.2 av.	Y. F. E. 1822-4-5.....	*Dr. Barton's estimates: Quarantine 1821-25.
1826-30	.....	*1707 av.	*36.1 av.	" 1827-8-9.....	1824-28-Gormley's Canal dug.
1830	46310	.....	.....	.....	1825-28-Melpomene Canal deepened and cleaned. [Year healthy.
1831-3-4-5	.....	*3503 av.	59.2 av.	Y. F. E. V. 1833, E. '34-5.....	1831-Inundation in Aug. to Dauphin St. by violent storm fr'm Lake.
1832	.....	.....	.....	Y. F. E. and V. V. C. E.....	1832-First appearance of Cholera Oct. 25th. 1032-5.-New Basin [and N. O. Canal dug.
1836-8-9-40	(4 yrs)	*2942 av.	*39.6 av.	V. Y. F. E.....	Inundation in October by violent storm from Lake.
1837	.....	U.	.....	V. Y. F. E.....	102,193 pop. U. S. C. of City and Parish of Orleans, & 3207 for Lafay.
1840	102,193	.....	.....	1841 V. E., 1842-3. F.....	*Dr. Barton's average estimates.
1841-5	.....	*3993 av.	*44.8 av.	.....
1845	108,000 est.	2783	25.7	.....
.....	.....	.....	.....	.....	For all the years which follow, the population and deaths are for N. O. and Lafayette, which were not legally consolidated until 1852.
.....	N. B.—Immigration from abroad averaged about 20,000 per annum (1845-50) very few arriving in summer and fall."—Barton.
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.....	
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.....	

FOR NEW ORLEANS AND LAFAYETTE.

1846	117,000 est.	4500 est	38.5	Y. F. S.	Pop. this year as subsequently estimated from U.S.C.; deaths estimated from reports of 1770 deaths for last four months.
1847	120,000 est.	9336	77.8	V. V. Y. F. E.	{ Inundation in April to Burgundy st., by violent storm from Lake.
1848	123,500 est.	8191	66.8	M. Y. F. E. and V. C. E.	{ 1846-7-8—War with Mexico.
1849	127,000 est.	10061	84.	" "	Cholera began December 11th; numerous California travelers.
1850	130,565 U.S.C.	8086	62.	V. C. E. and Y. F. S.	Inundation 6 weeks, May & June, to Dauphin st. by Sauv�e's crevasse.
Tot'l for 5 yrs		40774	66.		Population 130,565, viz: New Orleans 116,375 and Lafayette 14,190.
1851	133,940 est.	7275	54.3	Y. F. S., C. M. E.	7849 to 7970 deaths by yellow fever.
1852	137,400 est.	8693	63.3	Y. F. M. E., C. E.	
1853	140,900 est.	15033	111.	Great E., C. M. E.	
1854	144,600 est.	10800 est	74.7	V. Y. F. E., C. E.	
1855	148,400 est.	9000 est	60.7	" "	March 1855—The present Quarantine and Board of Health established
Tot'l for 5 yrs		51401	72.8		
1856	152,325 est.	5689	37.3	Y. F. S.	War began against United States.
1857	156,180 est.	5581	35.7	" "	
1858	160,240 est.	11721	73.1	V. V. Y. F. E.	
1859	164,400 est.	6847	41.6	Y. F. S.	
1860	168,675 U.S.C.	7341	43.5	" "	
Tot'l for 5 yrs		37179	46.3		
1861	173,000 est.	5772	33.3	No Y. F.	
Grand Tot'l for 16 yrs.—1846-61 both inclusive.	2,298,090	135,026	58.7		
Grand Tot'l for 13 yrs.—1846-61, excluding the 3 estimated yrs, 46, 54, 55.....	1,888,090	110,726	53.4		
1862	173,000 est.	1st 6 ms 2496	28.8	No Y. F.	War.
1862-65	.....	.....	.....	Y. F. S. 1863 and 1864.....	Captured by United States April 26th, 1862.
1866	200,000 est. ?	7900	39.5 ?	Y. F. S., C. E.	Cholera began July 14th.
1867	200,000 est. ?	10,096	50. ?	V. Y. F. E., C. E.	
1868	200,000 est. ?	5293	26.4 ?	Y. F. S., C. S.	Oct. 1st. week—Inundation from Lake extending for a few hours [as high as Burgundy street.
Suppose pop. 1868.....	230,000 est.	.....	.....	.....
1869. Say	230,000 ?	*2899	23.1 ?	.....	*First half year, January to June.
			25.2 ?	.....

The preceding Table, No. 1, derived from every accessible source which pretends by official figures to establish the death rate of New Orleans, shows that from 1787 to 1862, it has varied from 25.7 to 111. per 1000, with a general average much over 50 per 1000. The following Table, No. 2, shows the influence of yellow fever and cholera on this death rate; and whether the assertion so generally credited in this city, that it is comparatively healthy when free from epidemics, is true or not.

TABLE No. 2.—Annual and monthly mortality by Yellow Fever and by Cholera in New Orleans, 1796—1869. In the seventy-three years since the first epidemic of Yellow Fever, viz: 1796—1869, there have been thirty-five epidemics, in the following years, viz: 1796-9; 1800, 1-4-9; 1811-12-17-18-19; 1820-2-4-5-7-8-9; 1830-3-4-5-7-9; 1841-2-3-7-8-9; 1853-4-5-8; 1867. Of these, twelve at least were violent epidemics, viz: those of 1817-23-33-7-9-41-47; 1853-4-5-8; 1867. During the past fourteen years, viz: 1855-1869, there have been but two epidemics, viz: 1858 and 1867. N. B.—French embargo 1807-8; war with England 1812-14; Quarantine 1851-25. Quarantine which now exists was established March, 1855.

YEARS.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Number of cases known	TOTAL FOR YEAR.	REMARKS.
1817								304					519	823	First 2 cases May 7th and 12th; last December 9th.
1819														80-2100	
1823														1325	
1839														1800	
1841														{ averaging 500-600 cases 1100 }	Deaths for N. O. alone: 1st case July 2nd
5 Epidemics—1837 } —9, 1841-2-3 }							1	4	54				89	148	
1844														2	
1845														140	
1846							74	965	1100	118	33		545	2804	1st case June 21st.
1847						4	33	200	467	126	20	10	22	872	1st case July 6th.
1848								11	194	306	143	8		752	Deaths for N. O. alone, 1st case July 28
1849			2		1		4	62	33	4				167	" " " 1st death of sea-son May 20th. There were 3 to 4 cases in C. H. in February.
1850	1														
Total for 5 years...	1		2		1	4	111	1239	1992	842	208	18	567	4635	
1851								8	6	2	1			17	Some say 1st death in 1st week Aug. Some report 7970 deaths, 1st case May 22 1st death June 12th. 1st case June 19th.
1852							2	8	91	198	105	11	41	436	
1853	1				2	31	1521	5133	982	147	28	4		7849	
1854						2	20	532	1234	490	131	7		2425	
1855						5	382	1286	874	97	19	7		2670	
Total for 5 years...	1	0	0	0	2	38	1834	6967	1387	934	284	29	41	13417	
1856							1	14	40	16	4			74	1st case June 25th.
1857						1	1	1	1	8	82	8		200	1st undisputed case died Sept. 20th.
1858	2					2	132	1140	2201	1137	224	15		4855	1st case June 20th.
1859								1	39	28	3			91	
1860							3	7	5					15	1st case June 27th.
Total for 5 years...	3	0	0	0	0	3	136	1163	2316	1279	313	23		5235	
T1 for 16 yrs. 1846-61														2337	
1861-62														None	A few cases occurred.
1863														Unknown.	
1864														"	
1865														"	
Total for 5 years...														Unknown	
1866								5	62	1				118	1st case August 9th.
1867						3	11	255	1637	1072	163	26		3167	213 soldiers out of 1100; 1st case 2d week of June.]
1868														5	
Total for 3 years...	0	0	0	0	0	3	11	260	1639	1072*	163*	26*	118*	3257	*plus

EPIDEMICS OF ASIATIC CHOLERA, 1832-48-66 — *This disease first appeared in New Orleans October 25, 1832, and M. HALPHEN, D. M. P., of New Orleans, reported to the Paris Academy of Medicine, that in the first twenty days there were 6000 deaths! It prevailed as a violent epidemic several months, and sporadically until early in 1836, when it finally disappeared. A glance at the record of Charity Hospital, in Table No. 4, does not indicate any great mortality for 1832, but a much greater for 1833-4-5. It has appeared twice since, viz: December 1848, and July 1866.*

YEARS.	Jan.	Feb.	March	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Month not known	ANNUAL TOTAL.	REMARKS.	
1832														Unknown	Began Oct. 25th; very violent epidemic prevailed sporadically. Disappeared early in 1836.	
1833-36														"	[1st case Dec. 11. Max. day Dec. 23, 92 cholera deaths.]	
1848	8 0 4		March to July			1790	July to November	487				924		924	This total includes "cholera Asiatic," "cholera" & "cholera morbus."	
1849	128	363	415	75	66	40	12	8	45	101	367	231		3285		
1850														1851		
Total for 3 years.														6060		
1851	30	29	11	108	121	131	125	14	5	9	82	23		688	Began first week of May.	
1852	5				240	455	153	45	116	60	158	87		1319		
1853	25	3	2	11	9	14	5	1		6	177	322	32	about 950	"Over 900 in last seven months."	
1854	21	U.	U.	U.	U.	U.	U.	U.	U.	4	4			883	Began about May 15th.	
1855					235	570	49	7	13	4				4447		
Total for 5 years.														153		
Total for 5 years.																
1856-1860																
1856																
1857																
1858																
1859																
Total for 16 yrs. '46-61														10,665		'Cholera' reported for 1856, 46 deaths; 1857, 29; 1858, 26; 1859, 27; 1860, 30. Total 5 years 158. In my detailed report classed with Cholera Morbus.
1866							5-10	60	469	150				1294		1st case July 14th.
1867	5	0	1	0	0	4	36	39	15	37	234	210	65	581		
1868														103		
Total for 3 years														1978		

By table No. 1 it will be seen that for the sixteen years, 1846-61, the total death rate was 58.7 per 1000 population.

By this table No. 2, it will be seen that for the sixteen years 1846-61, the total deaths by Yellow Fever and Cholera were 34,012, viz: Yellow Fever 23,347, and Cholera 10,665. Now deducting these we have as the death rate of sixteen years 1846-61, excluding the Yellow Fever deaths, 48.6 per 1000 population.

Death rate of sixteen years 1846-61, excluding both Yellow Fever and Cholera deaths, 44.0 per 1000 population.

The death rate of the five healthy years 1856-60, was 46.3 with, and 39.7 without yellow fever. It will be seen subsequently that the deaths *directly* by drunkenness average 122 per annum, which appears by my researches (*insufficient*) to be 4-6 times greater than in other cities of United States; and also that the deaths by casualties of all kinds, (violence, accidents etc.) averaged 290 per annum, which appears to be more than double the amount occurring in other cities. The excess of the above deaths may be chargeable to the morals, but certainly not to the climate of the place; and therefore in studying the latter, the excess of such deaths should be deducted. This would reduce the non-epidemic death rate of 39.7 to about 38. only. Some have claimed that a large number of deaths by consumption, occurring in strangers who came here to die, should be deducted. The monthly report of the years 1856-60 (see Table No. 9) proves conclusively that this is not true, and that New Orleans is not entitled to any such comparative claim. For the excess of such deaths from November to May is comparatively very small; and that is the period of the year, when any such strangers would be in New Orleans. Again it has been claimed that a large excess of still-births should be deducted. Subsequent researches on this subject prove conclusively, that this claim also is comparatively false. (See Table No. 20.)

Those claiming deductions have generally reasoned very loosely; forgetting the main point that similar claims existed elsewhere, and that only an excess over the comparative average could in any case be deducted; and they have failed to learn by arithmetical test how very large a deduction is needed to produce any marked diminution of the annual death rate.

TABLE NO. III.

Showing the Death Rate of various Countries and Cities, for comparison with New Orleans—the facts having been derived, as to Cities in the United States, from similar sources, and in comparable circumstances.

NAME OF PLACE.	PERIOD CALCULATED.	NO. OF ANNUAL DEATHS PER 1000 POPULATION.	REMARKS.
Russia	1 year, viz., 1842.....	35.90	Those marked thus * are believed to be very reliable.
Austria	3 years, viz., 1839-42....	29.95	
Prussia	3 " " 1838-41....	26.58	
United States.....	1 year " 1850	25.44	
*France.....	44 years, viz., 1817-60...	23.00 to 24.00	Min. 11, max. 45.
*England	4 " " 1838-42....	22.07	
*England.....	10 " " 1850-60....	20.00	
Tropical malarial regions gen'rally .....	.....	46.00 to 50.00
*Massachusetts ...	1 year, viz., 1860.....	19.60	Until properly drain'd and supplied with [water.
CITIES.			
*Vienna	1 year, viz., 1865.....	31.7	See remark <i>infra</i> . Extremes 21. to 31. for epidemics inclusive
St. Petersburg....	1 " " 1858.....	41.	
Moscow	1 " " 1858.....	38.	
*Rotterdam	Usual annual average...	34.	
Turin	1 year, viz., 1858.....	26.	Highest 44.4.
Berlin	1 " " 1861.....	25.	
*Paris	1862-66.....	25. to 29.	
*London.....	10 years, viz., 1850-60...	24.	
London.....	15 " " 1848-62....	Population 1860, 212,418; 1868 — deaths [6178, voters 30,713.
Boston.....	60 " " 1725-1864	28.6	
*Boston.....	Average at present time.	23.	
New York	39 years, viz., 1821-63...	31.7	
*New York.....	25 " " 1840-66...	25.7 to 30.	Simonds. Barton. [355, '56, '60. U.S. Census for 49, '50. Chaillé.
Philadelphia.....	43 " " 1821-63...	23.5	
*Philadelph'ia.....	1 " " 1860	20.3	
Baltimore.....	38 " " 1818-63...	25.9	
Baltimore.....	1 year " 1868	26.0	"
*Cincinnati.....	1 " " 1867	24.	
*Cincinnati.....	1 " " 1868	14.3	
St. Louis.....	1 " " 1867	28.4	
St. Louis.....	1 " " 1868	22.3	"
Charleston.....	27 years, " 1822-48...	25.7	
Savannah.....	8 " " 1840-47...	41.6	
Memphis.....	3 " " 1850-54....	57.4	
New Orleans.....	4½ years, viz., 1846-50	81.00	"
" "	4 " " 1846-50.	69.30	
" "	4½ " " 1849-60.	58.20	
" "	16 " " 1846-61.	58.70	
" "	5 " " 1856-60.	46.36	"
" "	1 year, " 1868.....	26.40	

Highest mortality in any district of London during Cholera of 1868, was 36. per 1000.

To this record of New Orleans may be added that the total death rate of the four non epidemic years 1856-57-59-60 was 39.70.

Death rate of the six months, November to May, of the four above years was 36.80.

Death rate of the six months, May to November, of the four above years was 42.50.

Now, it must be borne in mind, that if the varying number of the population justifies, as it probably does, a considerable diminution of the above winter death rate, so it justifies an augmentation of the above summer non-epidemic death rate of 42.50.

As this article is not designed to support the preconceived views of the writer or any one, but simply to report all the facts; it will be well to give the only kind of argument ever used to prove that New Orleans has a really small death rate. I select the ablest I find, which is claimed as characterizing "*the ratiocinative and inductive ability*" of all the scientific contributions of Dr. W. P. Hort, U. S. Mint, New Orleans. As will be seen, (Table 1), the death rate of 1850 was 62 per 1000. Dr. Hort grants the 8086 deaths in 1850, and then follows his argument, viz:

Population.....	130,000	Residents.
	125,000	Strangers from the West.
	125,000	Strangers from the South.
	25,000	Californians en route.

Grand total of population...405,000 which yields, says Dr. Hort, 26.5 per 1000 (arithmetic makes is less than 20.) as the death rate of 1850, instead of 62.

That those who grant this a fair comparative argument, should claim that any thing can be proved by figures is not strange; that they should term it science is very strange, and as a reply they deserve to be reminded of Charles Lamb's response to one of his critics, that he wrote to amuse and instruct, but had never claimed the ability to furnish others with the brains necessary to comprehend either his wit or instruction.

The two following tables compiled from the Charity Hospital Reports and Records are introduced for their historical and other interest to the physicians of New Orleans. Table No. 4, as far as the year 1851, has been several times published. It has been completed to date chiefly by my friend, Dr. A. Deloffre. The following facts should be borne in mind: All deaths in the Charity Hospital form part of the gross total of the annual mortality in the city, and constitute from say one-fifth to one-tenth of the whole. The varying number of annual admissions, whilst dependant in part on the amount of sickness in the city, has also depended on the amount of immigration, and also at times very greatly on the finances of the institution, and the varying liberality of different administrations. The number of foreign birth admitted is extremely large, that of natives of Louisiana excessively small. Therefore it has been claimed that the Charity Hospital was a great foreign institution located in our midst, whose deaths ought to be deducted from those in the city to estimate fairly its death rate. It must be borne in mind, however, that every commercial city in the United States has such foreign institutions; that the resident foreign population of New Orleans is over one-third of the whole, and composes a large proportion of the most ignorant, most needy, and least provident of it; also that this portion of the foreign population accepts charity with less shame, than the native born. Of course it will be understood that these remarks are not applied to our whole or even greater part of the population of foreign birth. None grant more cordially than I that very many of our best citizens are of this class, and neither "Know-nothing-ism" nor "Anti-Catholic-ism" are parts of my creed.

The death rate of the Charity Hospital is, compared with other hospitals, very high. From 1822 to 1850 it varied from 93. to 339. per 1000, with a general average of 164.5, or 1 death to about every 6 admissions. In the five years 1856-60 the deaths were 1 to about every 8 cases treated; and nearly the same for the five years 1864-68. It must be remembered that a large number, probably not less than one-fifth, of those who die are admitted in articulo mortis. Dr. Fenner, p. 250, vol. 1, So. Med. Reports, records that of 12,381 deaths for the 10 years, 1840-49, 2,666 were admitted "moribund."

Negros seem to have been first admitted in 1839, and averaged about 100 annually to 1863. The closure of the Freedmens' (U. S. Marine) Hospital early in 1869 has caused a large augmentation of the negro patients.

It will be found that the "discharged" *plus* the "died" do not always correspond to the "admitted" *plus* the "remaining" which is due to the faulty method of reporting, and is not an error of mine.

TABLE NO. IV.

*Record of the Charity Hospital, New Orleans, 1820 to 1869.
Founded in 1786. The present edifices erected in 1832.*

ALL DISEASES.					YELLOW FEVER.					CHOLERA ASIATIC.	
	Remain- ing.	Admitted	Disch'gd	Died.	1st Case.	Last Case	Admitted	Disch'gd	Died.	Disch'gd	Died.
1820	40	1069	..	..	....	....	..	..	..	..	..
1821	46	1308	..	..	....	....	..	..	..	..	..
1822	82	1685	1116	573	Sept 3	Dec 31	348	98	239	..	..
1823	78	1288	983	283	Sept 11	Dec 13	1	0	1	..	..
1824	100	..	..	..	Aug 4	Nov 13	167	59	108	..	..
1825	70	1262	989	218	June 23	Dec 19	94	40	59	..	..
1826	125	1373	1212	196	May 18	Nov 18	26	19	5	..	..
1827	90	1857	1549	304	July 17	Dec 5	372	263	109	..	..
1828	94	2434	1989	401	June 19	Dec 10	290	160	130	..	..
1829	138	2559	2065	483	May 23	Nov 29	435	220	215	..	..
1830	148	2768	2366	424	July 24	Nov 29	256	139	117	..	..
1831	116	3749	3149	409	June 9	Oct 7	3	1	2	..	..
1832	309	2170	1703	568	Aug 15	Oct 25	26	8	18	146	73
1833	169	3851	2617	1114	July 17	Nov 17	422	212	210	..	..
1834	262	5841	4745	1152	Aug 28	Nov 22	150	55	95	..	..
1835	265	6205	4999	1226	Aug 24	Nov 27	505	221	284	..	..
1836	222	4754	4163	585	Aug 24	Oct 25	6	1	5	..	..
1837	228	6103	4640	1420	July 13	Nov 28	998	556	442	..	..
1838	271	4687	3890	683	Aug 25	Nov 1	22	5	17	..	..
1839	239	4833	3611	955	July 23	Nov 17	1086	634	452	..	..
1840	267	5041	4370	619	July 9	....	3	0	3	..	..
1841	314	4380	3693	1156	Aug 2	Dec 8	1113	520	594	..	..
1842	..	4464	3516	761	Aug 4	Nov 26	410	214	211	..	..
1843	..	5013	3672	1641	July 10	Dec 31	1053	609	487	..	..
1844	..	5846	5059	713	Sept 4	Nov 25	150	88	83	..	..
1845	383	6136	5446	563	Aug 10	Aug 10	1	1	0	..	..
1846	401	8644	7074	855	Aug 29	Dec 1	146	50	96	..	..
1847	427	11890	9369	2037	June 29	Dec 11	2811	1584	895	..	..
1848	829	11945	10010	1897	June 7	Dec 2	1234	806	420	..	..
1849	609	15553	12133	2745	July 28	Dec 4	1062	510	545	735	1122
1850	719	18476	15989	1884	Aug 23	Nov 16	9	6	4	189	530
1851	..	18421	16777	1871	Aug 1	Oct 9	7	5	2	90	292
1852	..	18 35	15057	2198	Aug 20	Nov 20	496	102	339	106	358
1853	..	13759	10733	3164	May 21	Nov 23	3212	1427	1890	41	115
1854	..	13192	9976	2762	July 2	Dec 1	2741	1460	1233	126	352
1855	..	12192	9701	2391	June 3	Dec 11	2191	1099	1099	123	225
1856	..	9432	8601*	974	Aug 10	Nov 11	98	47	51	..	..
1857	..	8897	7914	1617	Sept 17	Dec 18	234	80	155	..	..
1858	572	11137	8923	2290	June 16	Dec 23	2722	1331	1382	..	..
1859	644	12775	11257	1321	Aug 29	Nov 29	84	23	107	..	..
1860	730	140 0	12665*	1390	Aug 12	Nov 11	2	2	0	..	..
1861	891	8665	7918†	798	....	....	0	0	0	..	..
1862	..	6016	5532‡	719	....	....	..	..	..	..	..
1863	..	..	..	..	....	....	..	..	..	..	..
1864	373	4861	3999	812	....	....	2	1	1	..	..
1865	423	6466	5880	669	....	....	..	..	..	..	..
1866	640	9329	8108	1122	Aug 27	Nov 14	130	93	35	61	237
1867	738	8612	7260	1438	June 9	Dec 22	1493	808	672	14	70
1868	637	4981	4365	490	Oct 5	Oct 22	8	3	5	6	9
1869	660	¶	..	..	....	....	..	..	..	..	..

* Total in the "Official Report" is a false addition.

† Report for ten months, January to November 1.

‡ Report for one year, November 1861 to November 1862.

|| No reports for November 1862 to January 1864.

¶ Negroes admitted in much larger numbers than heretofore.

TABLE NO. V.

Charity Hospital Record of the following Diseases for 1832, and 1842 to 1869, excepting 1862, '3, '5 and '6 of which years no published Reports.

Year	VARIOLA.		MEASLES.		SCARLATINA.		SUN STROKE.		Dengue.		DIPH- THERIA.		REMARKS.
	Disch'd	Died.	Disch'd	Died.	Disch'd	Died.	Disch'd	Died.	Disch'd	Died.	Disch'd	Died.	
1832	1	0	0	0	0	0	0	0	..	..	..	..
1842	25	16	7	0	1	0	2	2	..	..	..	..
1843	27	16	0	0	0	0	0	0	..	..	..	..
1844	6	1	3	0	2	0	0	0	..	..	..	..
1845	0	0	4	0	2	0	0	0	..	..	..	..
1846	0	0	18	1	9	1	1	1	..	..	..	..
1847	2	0	15	0	0	0	2	4	..	..	..	..
1848	0	0	6	0	4	2	5	4	9	0	0	0	
1849	42	22	0	0	2	0	2	2	0	0	0	0	
1850	0	0	1	0	0	0	34	32	1	0	0	0	
1851	37	2	1	0	2	0	13	16	2	0	0	0	
1852	29	4	18	1	8	0	9	16	1	0	0	0	
1853	5	0	32	1	6	2	8	12	0	0	0	0	
1854	8	1	10	0	8	4	39	13	0	0	0	0	
1855	20	1	7	1	9	7	6	5	0	0	0	0	
1856	5	0	24	2	3	1	5	3	0	0	0	0	
1857	2	0	49	6	3	1	0	1	0	0	0	0	
1858	2	0	2	0	8	2	6	4	0	0	0	0	
1859	0	0	7	0	9	4	2	10	0	0	5	0	Diphtheria appeared { in Mass. Rep't { in 1858.
1860	2	0	11	1	10	3	21	32	458	0	6	1	
1861	0	0	22	0	8	1	2	4	6	0	3	3	
1862	..	..	..	..	..	..	..	..	..	..	..	..	No Report published.
1863	..	..	..	..	..	..	..	..	..	..	..	..	" "
1864	1	6	31	4	2	..0	1	1	0	0	1	6	
1865	..	..	..	..	..	..	..	..	..	..	..	..	No Report published.
1866	..	..	..	..	..	..	..	..	..	..	..	..	" "
1867	2	0	0	0	0	..0	0	0	3	0	2	0	
1868	1	0	0	0	1	1	0	0	0	0	1	0	
1869	..	..	..	..	..	..	..	..	..	..	..	..

REMARKS.—Dengue, says Barton, first appeared in the United States in 1829, and in New Orleans, says one of its oldest physicians, in 1829 or 1830. It prevailed in New Orleans especially in the summers of 1850 and 1860. Diphtheria first appeared in New Orleans in 1853 or 1854. Sun-strokes were especially numerous in the city in August 1850, in June 1854 and in July 1860.

PART II.

Special Researches into the Vital Statistics of New Orleans for the five years 1856-60.

The five years 1856-60 have been selected for special study for reasons already given. The series of tables which follow illustrate the subject in every view permitted by the reports. These were very defective in many particulars, covered over seventy pages of columns of figures, and caused many weeks of labor, tedious beyond expression. The reduction of the alphabetical classification, which so uninstruclingly prevails in these reports, to the nomenclature and classification of the Royal College of Physicians, greatly augmented the labor. The especial attention of the reader is called to this classification. It is a modification only of, and is readily comparable with, the classification of Registrar Gen'l. Farr, of England, which has been generally used in this country. All future English statistics, and it is hoped American also, will conform to the nomenclature and classification adopted in this article. It is to be understood that my report is by no means in exact accord with this "Nomenclature of Diseases." The main features are the same, but in some cases it was deemed impolitic if not impracticable to alter the terms used in the original reports. These, as will be seen, are often most unsatisfactory and uninstrucling. The causes of death given in many cases would be most discreditable to the profession, if certificates of death were given by physicians only, as should be the case, instead of by almost any and every body as is the case in New Orleans. In regard to many of these diagnoses as recorded by me, I would simply recall Byron's couplet.

"The four first rhymes are Southey's every line;
For God's sake, reader! take them not for mine!"

A discrepancy exists between the numbers of deaths reported in the following tables, and those given for the same years in Table No. 1. This discrepancy is due to the fact, that whilst the report for 1856 gives the total mortality of the year as in Table No. 1, yet it singularly omits any report of the month December, 1856. Therefore I was compelled to take December 1855 to complete the year 1856 with twelve months. Thus the years reported

subsequently are in truth December 1st, 1855, to November 30th, 1856, with 1857, '58, '59 and 1860, each beginning and ending January 1st.

On examining table No. 6, there will be found eight columns of figures. Of these the first two are for the whole city, one for the deaths and the second merely for the convenience of obtaining from the first the total by classes and associated diseases. The six last columns are exclusively for the charity hospital;— and the last three of these solely for the more convenient and instructive addition of the first three. It should be recalled, that the deaths in the charity hospital are a part of the deaths given for the city. The readers who take no interest in the special study of table No. 6 will find that the much briefer tables, Nos. 7 and 8, are instructive abbreviations of No. 6.

TABLE NO. 6.

Mortality Report of New Orleans and its Charity Hospital for the Five Years, 1856-60, consolidated.—Nomenclature and Classification of the Royal College of Physicians.

Population of New Orleans by U. S. census.....1850.....	130,565
(estimated), 1855.....	148,375
1860.....	168,675
Estimated population for five years, 1856-1860	801,825
Deaths from all causes:	
Total deaths in New Orleans.....	37,133
Of these, deaths in the Charity Hospital°.....	6,992
Discharged in Charity Hospital.....	49,300
Total cases in Charity Hospital for 5 years.....	56,292

CLASS. ORDER.	DISEASES.	TOTAL FOR 5 YEARS, 1856-1860.			
		Deaths in N. O.	Deaths in C. H.	Discharges in Charity Hospital.	Total cases in Charity Hospital.
1	General Diseases A*.....	7465	2400	17622	20022
2	General Diseases B†.....	6806	1123	6476	7599
3	Local Diseases‡.....				
1	Nervous system.	5822	331	1039	1370
2	Eye.			1283	1283
3	Ear and nose.....	1	1	41	42
4	Circulatory system.....	699	118	240	358
5	Absorbent ".....			38	38
6	Ductless glands.....			2	2
7	Respiratory system.....	2619	471	2206	2677
8	Digestive ".....	6553	1606	7033	8639
9	Urinary || ".....	124	64	904	968
10	Generative ".....	186	20	1184	1204
11	Locomotor ".....	20	4	231	235
12	Cellular tissue.		5	10	15
13	Cutaneous§.....	30	26	2652	2678
4	Conditions unclassified.....	3696	147	503	650
5	Poisons¶.....	*643	358	1786	2144
6	Injuries.				
1	General injuries.	1125	42	236	278
2	Local ".....	328	201	4000	4201
7	Surgical operations.**.....	4	6	85	91
8	Parasites.	30	1	13	14
9	Congen'l malformat'n.....	16			
10	Condit's unclassifiable.....	966	68	1716	1784
	Totals	37133	6992	49300	56292

°Deaths in the Charity Hospital are included in deaths in city.

*"Zymotic, apt to be epidemic."

†"Constitutional, apt to be inherited." 533 deaths in New Orleans of "Dropsy"

‡ 2031 deaths in New Orleans of "Infantile Convulsions"; 947 of "Tris. Nascent." and 647 of "Congest. of Brain"; 493 cases in Charity Hospital of "Neuralgia."

|| 773 cases in Charity Hospital of "Gonorrhœa."

§ 2328 cases in Charity Hospital of Ulcers, Abscesses, Boils, etc.

¶ 610 deaths in New Orleans of Alcoholismus.

** The very small numbers given, prove conclusively how very defective are the "Official Reports" as to Surgical Operations.

N. B.—The remainder of Table No. 6 consists of a detailed report of the preceding general summary on page 36.

TABLE NO. 6—CONTINUED.

Class.	Order.	DISEASES.	City for 5 Years.		Charity Hospital for 5 years.					
			Deaths.	Deaths by Causes.	Deaths.	Discharges.	Total Cases.	Deaths.	Discharges.	Totals.
1		Smallpox	262	.....	.....	23	23	.....	.....	.....
		Varioloid	16	.....	1	32	33	.....	.....	.....
		Measles*	236	.....	9	95	102	.....	.....	.....
		Scarlatina†	497	.....	13	34	47	.....	.....	.....
		Other Exanthemata	2	.....	.....	11	11	.....	.....	.....
				1013				23	193	216
		Diphtheria ‡	398	.....	1	11	12	.....	.....	.....
		Whooping cough	217	.....	5	21	26	.....	.....	.....
		Mumps .....	.....	.....	.....	3	3	.....	.....	.....
		Influenza	1	.....	1	45	46	.....	.....	.....
				516				7	80	87
		Plague.....	1	.....	.....	.....	.....	.....	.....	.....
		Cholera ¶	1	.....	1	.....	1	.....	.....	.....
		Gangrene	71	.....	16	6	22	.....	.....	.....
		Erysipelas	84	.....	28	209	237	.....	.....	.....
		Puerperal fever.....	59	.....	4	3	7	.....	.....	.....
		Pyæmia.....	11	.....	1	.....	1	.....	.....	.....
				227				50	218	268
		Typhus fever.....	68	.....	28	34	62	.....	.....	.....
		Cer-spinal fever.....	3	.....	.....	.....	.....	.....	.....	.....
		Typhoid, Enteric, Contd.,		.....					
		Adyn. fevers.....	802	.....	346	687	1033	.....	.....	.....
		Brain and Nervous fever..	95	.....	.....	.....	.....	.....	.....	.....
				968				374	721	1095
		Fever.....	80	80	.....	41	41	.....	41	41
		Malarial fever—Ague :								
		Int. Remit., etc.....	333	.....	99	14350	14449	.....	.....	.....
		Congest. Chills, Fever‡	819	.....	145	63	208	.....	.....	.....
		Pernicious Fever.....	163	.....	30	15	45	.....	.....	.....
				1315				274	14428	14702
		Yellow fever¶	5242	.....	1672	1483	3155	.....	.....	.....
		Dengue**	4	.....	.....	458	458	.....	.....	.....
				5246				1672	1941	3613
		Totals of class 1.....	.....	7465	.....	.....	.....	2400	17622	20022
2		Rheumatism	81	.....	22	2362	2384	.....	.....	.....
		Gout	4	.....	.....	7	7	.....	.....	.....
		Syphilis.....	43	.....	27	2475	2502	.....	.....	.....
		Cancer	232	.....	33	74	107	.....	.....	.....
		Tumors	11	.....	3	16	19	.....	.....	.....
		Leprosy (Elephantiasis)..	4	.....	2	6	8	.....	.....	.....
		Serofulæ††	73	.....	24	129	153	.....	.....	.....
		Phth. Pul. (tuberculosis)	3727	.....	940	1037	1977	.....	.....	.....
		Hectic fever.....	27	.....	4	2	6	.....	.....	.....
		Diabetes	4	.....	1	12	13	.....	.....	.....
		Purpura and Scurvy.....	19	.....	6	65	71	.....	.....	.....
		Anæmia and Chlo-osis ...	48	.....	18	183	201	.....	.....	.....
		Dropsy and Œdema.....	533	.....	43	108	151	.....	.....	.....
		Totals of class 2.....	.....	6806	.....	.....	.....	1123	6476	7599

* 104 deaths in 1857.

¶ Charity Hospital, 1857.

** All in 1860.

‡ 321 deaths in 1859-60.

‡ 328 deaths in 1858.

†† 9 of tub. mesent. and 1 of rickets.

† All in 1859-60.

¶ 4855 deaths in 1858.

TABLE NO. 6—CONTINUED.

Class.	Order.	DISEASES.	City for 5 Years.		Charity Hospital for 5 years.					
			Deaths	Deaths by Classes	Deaths.	Discharges	Total Cases.	Deaths.	Discharges.	Total.
2	1	Disease of brain	37							
		Congestion of brain	647		67	17	84			
		Encephalitis	41		8	4	11			
		Meningitis	473		15	18	33			
		Cerebritis, Soft'ning, Absc.	92		18	10	28			
		Apoplexy	584		38	12	50			
		Sunstroke*	127		50	34	84			
		Hydrocephalus	169			2	2			
		Mania, Monomania, etc...	24		5	99	104			
		Disease of spine	40		3	9	12			
		Paralysis	118		38	171	209			
		Tetanus	315		41	6	47			
		Tris. nascent	947		5	1	6			
		Infant. convulsions	2031							
		Convulsions	62		14	13	27			
		Epilepsy	97		24	85	109			
		Hydrophobia	5							
		Par. agit. Chorea, Hyster.								
		Catalepsy	6		1	69	70			
		† Neuralgias	7		4	489	490			
		Total of nervous diseases		5822				331	1039	1370
3	2	Eye diseases†				1283	1283			
		Totals							1283	12-3
3	3	Diseases of ear and nose||	1		1	41	41			
		Totals		1				1	41	42
3	4	Pericarditis	36		11	11	22			
		Hydropericardium	2		2		2			
		Endocarditis			1	11	11			
		Heart disease, Valv. Or-								
		ganic, etc	501		78	102	210			
		Angina Pect	40		2	3	5			
		Cyanosis	9							
		Aneurism	39		14	9	23			
		Phlebitis	5		1	7	8			
		Phleg. dolens	1		1	2	3			
		Varices				55	55			
		Gangrena senilis	7		8	1	9			
		Hæmorrhage	59			9	9			
		Totals Dis. of Circulation		699				118	240	358

* 72 deaths in 1860, of which 57 in July. Also in July there were 62 deaths by apoplexy, which is an excess of 52 over the monthly average. Therefore deaths by sunstroke were probably much more than reported. † All, except those of digestion. ‡ 124 other syphilit., scrof, and rheumat. eye diseases. || 1 death of "epistaxis."

TABLE NO. 6—CONTINUED.

Class.	Order.	DISEASES.	City for 5 years.		Charity Hospital for 5 Years.					
			Deaths.	Deaths by Classes.	Deaths.	Discharges.	Total Cases.	Deaths.	Discharges.	Total.
3	5	Inflam. and Enlarg. of lymphatics and lymphatic glands.....	.....	.....	.....	38	38	.....	.....	.....
		Totals .....	.....	.....	.....	.....	.....	.....	38	38
3	6	Goitre.....	.....	.....	.....	2	2	.....	.....	.....
		Totals.....	.....	.....	.....	.....	.....	.....	2	2
3	7	Diseases of larynx.....	6	.....	8	67	75	.....	.....	.....
		Croup	433	.....	.....	.....	.....	.....	.....	.....
		Catarrh	153	.....	7	466	473	.....	.....	.....
		Bronchitis.....	352	.....	61	795	856	.....	.....	.....
		Asthma	68	.....	8	44	52	.....	.....	.....
		Emphysema .....	.....	.....	8	13	21	.....	.....	.....
		Disease of lungs.....	24	.....	6	1	7	.....	.....	.....
		Pneumonia	1164	.....	300	501	801	.....	.....	.....
		Abscess and Gangrene.....	42	.....	11	3	14	.....	.....	.....
		Congestion of lungs.....	179	.....	18	4	22	.....	.....	.....
		Hæmoptysis.....	68	.....	5	26	31	.....	.....	.....
				2489				432	1920	2352
		Pleurisy.....	52	.....	28	277	305	.....	.....	.....
		Empyema.....	11	.....	3	3	6	.....	.....	.....
		Hydrothorax.....	67	.....	3	4	7	.....	.....	.....
		Hydro-Pneumo-Thorax ..	.....	.....	5	2	7	.....	.....	.....
				130				39	286	325
		Totals.....	.....	2619	.....	.....	.....	471	2206	2677
3	8	Dis. of mouth & tongue*...	8	.....	6	16	22	.....	.....	.....
		Teething	897	.....	3	5	8	.....	.....	.....
		Dis. of throat & pharynx†	165	.....	2	103	105	.....	.....	.....
		“ of salivary glands‡...	10	.....	.....	42	42	.....	.....	.....
		“ of œsophag. & stom...	.....	.....	1	3	4	.....	.....	.....
				1080				12	169	181
		Dyspepsia, Gastrody., Enteralgia, etc.....	8	8	9	456	465	9	456	465
		Hæmatemesis.....	11	.....	.....	5	5	.....	.....	.....
		Ulcer, Softening, Gang. of stomach.....	21	.....	4	.....	4	.....	.....	.....
		Gastritis.....	179	.....	29	286	315	.....	.....	.....
		Gastro-enteritis.....	341	.....	37	42	79	.....	.....	.....
		Enteritis.....	625	.....	33	92	125	.....	.....	.....
		Inflam. and Congest. of bowels	148	.....	.....	.....	.....	.....	.....	.....
		Disease of bowels.....	24	.....	.....	.....	.....	.....	.....	.....
		Cholera, Cholera morbus, Colic, Cramps||.....	298	.....	39	198	237	.....	.....	.....
		Cholera Infantum.....	517	.....	17	2	19	.....	.....	.....
		Diarrhœa.....	1442	.....	713	3327	4040	.....	.....	.....
		Dysentery.....	1187	.....	404	1104	1508	.....	.....	.....
				4793				1276	5056	6332

* 7 deaths of cancer. oris.

† 95 deaths of inflammation of throat in 1858.

‡ 10 deaths of parotitis.

|| Of these 298 deaths, 147 are reported as
“ cholera.”

TABLE NO. 6—CONTINUED.

Class.	Order.	DISEASES.	City for 5 years.		Charity Hospital for 5 Years.					
			Deaths.	Deaths by Classes.	Deaths.	Discharges.	Total Cases.	Deaths.	Discharges.	Total.
3	8	Hernia .....	.....	.....	3	102	107	.....	.....	.....
		“ strangulated	22	.....	3	24	27	.....	.....	.....
		Intest. Stric., Intussusc.	7	.....	3	7	10	.....	.....	.....
		Obstruct	11	.....	1	281	282	.....	.....	.....
		Constipation .....	.....	.....	2	121	123	.....	.....	.....
		Hæmorrhoids .....	.....	.....	.....	99	99	.....	.....	.....
		Fistula, Prolaps, Fissures of anus and rectum .....	.....	40	.....	.....	.....	12	634	646
		Biliary derangement .....	.....	.....	2	254	256	.....	.....	.....
		Disease of liver	28	.....	1	.....	1	2	254	256
		Hepatitis	224	.....	47	89	136	.....	.....	.....
		Congest. and Enlargem't	22	.....	1	15	16	.....	.....	.....
		Abscess	62	.....	19	4	23	.....	.....	.....
		Cirrhosis	47	.....	35	22	57	.....	.....	.....
		Jaundice	54	.....	27	133	160	.....	.....	.....
		Dis. of pancreas & spleen.	7	487	5	26	31	130	263	393
		Peritonitis .....	.....	7	.....	.....	.....	5	26	31
		Ascites	170	.....	45	15	60	.....	.....	.....
		Totals of dis. of digest. organs	18	188	115	160	275	160	175	335
		Dis. of Urinary System—	.....	6553	.....	.....	.....	1606	7033	8639
	9	Albumin. Nephritis, etc.	81	.....	50	71	121	.....	.....	.....
		Diseases of bladder	9	.....	1	24	25	.....	.....	.....
		Cystitis	28	.....	5	33	38	.....	.....	.....
		Calculus	4	.....	.....	6	6	.....	.....	.....
		Rupture urethra & bladder	2	.....	3	2	5	.....	.....	.....
		Gonorrhœa, Balanitis, Gleet .....	.....	124	.....	.....	.....	59	136	195
		Phimosis and Paraph. ....	.....	.....	3	469	469	.....	.....	.....
		Epididym. and Orchitis .....	.....	.....	1	19	20	.....	.....	.....
		Strict. of urethra .....	.....	.....	1	192	193	.....	.....	.....
		Totals of dis. of urinary syst. ....	.....	.....	3	88	91	5	768	773
		Dis. of Generative System	.....	124	.....	.....	.....	64	904	968
	10	Dis. of penis and scrotum	2	.....	2	2	4	.....	.....	.....
		“ of testicle, prostate & cord .....	.....	.....	1	55	56	.....	.....	.....
		Infl. and dropsy of ovary	1	2	.....	2	2	3	57	60
		Diseases of vagina .....	.....	.....	3	36	39	.....	.....	.....
		Leucorrhœa .....	.....	.....	.....	46	46	.....	.....	.....
		Infl. and dis. of womb	37	.....	4	51	55	.....	.....	.....
		Prolapsus of womb .....	.....	.....	.....	47	47	.....	.....	.....
		Amenorrhœa .....	.....	.....	3	58	61	.....	.....	.....
		Dysmenorrhœa	3	.....	2	41	43	.....	.....	.....
		Menorrhagia .....	.....	.....	.....	21	21	.....	.....	.....
		Totals of dis. of gen. syst. ....	.....	41	.....	.....	.....	12	302	314

TABLE NO. 6—CONTINUED.

Class.	Order.	DISEASES.	City for 5 Years.		Charity Hospital for 5 years.					
			Deaths.	Deaths by Classes	Deaths.	Discharges	Total Cases.	Deaths.	Discharges.	Total.
		Abortion.....	.....	.....	.....	26	26	.....	.....	.....
		Pregnancy.....	.....	.....	.....	236	236	.....	.....	.....
		Parturition.....	73	.....	.....	550	550	.....	.....	.....
		Puerp. & Uterine Hæmo-.....	32	.....	1	7	8	.....	.....	.....
		Puerperal Convulsions... ..	38	.....	2	2	4	.....	.....	.....
		" Mania.....	.....	.....	2	4	6	.....	.....	.....
			.....	143	.....	.....	.....	5	825	830
		Totals of dis. Generat System.....	.....	186	.....	.....	.....	20	1184	1204
3	11	<i>Dis. of Locomotory Syst'm</i>								
		Disease of Bones.....	12	.....	.....	165	165	.....	.....	.....
		" Joints.....	.....	.....	2	61	63	.....	.....	.....
		Psoas., Lumbar and other such diseases.....	8	.....	2	1	3	.....	.....	.....
		Other diseases.....	.....	.....	.....	4	4	.....	.....	.....
		Totals of dis. locomotory sys'm.....	.....	20	.....	.....	.....	4	231	235
3	12	<i>Dis. of Cellular Tissue...</i>								
		Dis. of Cellular Tissue....	.....	.....	5	10	15	.....	.....	.....
		Totals.....	.....	.....	.....	.....	.....	5	10	15
3	13	<i>Dis. of Cutaneous System.</i>								
		Abscesses.....	11	.....	11	516	527	.....	.....	.....
		Boils and Carbuncle.....	4	.....	1	105	106	.....	.....	.....
		Ulcers.....	12	.....	11	1684	1695	.....	.....	.....
			.....	27	.....	.....	.....	23	2305	2328
		Roseola*.....	.....	.....	.....	17	17	.....	.....	.....
		Scarbies, Itch.....	.....	.....	.....	45	45	.....	.....	.....
		Other Eruptive diseases... ..	3	.....	3	285	288	.....	.....	.....
			.....	3	.....	.....	.....	3	347	350
		Totals of dis. cutaneous system.....	.....	30	.....	.....	.....	26	2652	2678
4		<i>" Conditions " not necessarily associated with General or Local Diseases—</i>								
		Premature birth.....	126	.....	.....	.....	.....	.....	.....	.....
		Still-born.....	1764	.....	.....	.....	.....	.....	.....	.....
		Infantile debility.....	417	}	.....	.....	.....	.....	.....	.....
		" marasmus.....	773		.....	.....	.....	.....	.....	.....
		Adult debility.....	192		123	484	607	.....	.....	.....
		" marasmus.....	61		.....	.....	.....	.....	.....	.....
		Old age.....	363	.....	24	19	43	.....	.....	.....
		Totals.....	.....	3696	.....	.....	.....	147	503	650
5		Poisons.....	19	.....	1	2	3	.....	.....	.....
		Mercury—Salivation.....	1	.....	1	64	65	.....	.....	.....
		Lead colic and Palsy.....	13	.....	5	167	172	.....	.....	.....
		Opium.....	.....	.....	1	10	10	.....	.....	.....
		Chloroform.....	.....	.....	2	.....	2	.....	.....	.....
			.....	33	.....	.....	.....	10	243	253
		Alcoholismus.....	} 610	.....	.....	.....	.....	.....	.....	.....
		Del. tremens, Intempr'ce.....		.....	348	1543	1891	.....	.....	.....
		Totals.....	.....	643	.....	.....	.....	358	1786	2144

*Sixteen cases in 1858.

TABLE NO. 6—CONTINUED.

Class.	Order.	DISEASES.	City for 5 years.		Charity Hospital for 5 Years.						
			Deaths.	Deaths by Classes.	Deaths.	Dischar ges.	Total Cases.	Deaths.	Dischar ges.	Total.	
6	1	<i>General Injuries---</i>									
		Casualties.....	280	.....	1	.....	1	.....	.....	.....	.....
		Drowned.....	402	.....	.....	.....	.....	.....	.....	.....	.....
		Asphyxia.....	43	.....	.....	.....	.....	.....	.....	.....	.....
		Lightning.....	2	.....	.....	.....	.....	.....	.....	.....	.....
		Burns and Scalds.....	168	.....	40	236	276	.....	.....	.....	.....
		Exposures, Privation, etc	15	.....	1	.....	1	.....	.....	.....	.....
				910	.....	.....	.....	42	236	278	.....
		Executed.....	5	.....	.....	.....	.....	.....	.....	.....	.....
		Suicide.....	105	.....	.....	.....	.....	.....	.....	.....	.....
		Murdered.....	88	.....	.....	.....	.....	.....	.....	.....	.....
		Infanticide.....	17	215	.....	.....	.....	.....	.....	.....	.....
		Totals.....	.....	1125	.....	.....	.....	42	236	280	.....
6	2	<i>Local Injuries---</i>									
		Wounds.....	164	.....	.....	.....	.....	.....	.....	.....	.....
		Continued, Lac, Incd., Punc'd, Penet'g.....	.....	.....	71	3032	3103	.....	.....	.....	.....
		Gunshot.....	.....	.....	25	160	185	.....	.....	.....	.....
		Poisoned.....	.....	.....	2	17	19	.....	.....	.....	.....
		Dog, Centipedes, Snake..	.....	.....	.....	21	21	.....	.....	.....	.....
		Fract., Concus, Comp., etc., Skull and Spine:	146	.....	78	60	138	.....	.....	.....	.....
		Disl. and Frac. Sternum, Clav., Scap., Facial Bones, Ribs.....	3	.....	8	141	149	.....	.....	.....	.....
		Disl. & Frac. Upper Ext. " " Lower and	.....	.....	1	266	267	.....	.....	.....	.....
		Pelvis.....	14	.....	11	300	311	.....	.....	.....	.....
		Other local Injuries..	1	.....	5	3	8	.....	.....	.....	.....
		Totals.....	.....	328	.....	.....	.....	201	4000	4201	.....
		7		<i>Surgical Operations---</i>							
Amputations, etc.....	4			.....	.....	61	61	.....	.....	.....	.....
" Thigh.....	.....			.....	2	4	6	.....	.....	.....	.....
" Leg.....	.....			.....	4	20	24	.....	.....	.....	.....
Totals.....	.....	4	.....	.....	.....	6	85	91	.....	
8		<i>Parasites---</i>									
		Worms.....	30	.....	1	4	5	.....	.....	.....	.....
		Asc. Lumb.....	.....	.....	.....	8	8	.....	.....	.....	.....
		Tape*.....	.....	.....	.....	1	1	.....	.....	.....	.....
Totals†.....	.....	30	.....	.....	.....	1	13	14	.....	
9		Congenit. Malformations	3	.....	.....	.....	.....	.....	.....	.....	.....
		Imperforate Anus.....	13	.....	.....	.....	.....	.....	.....	.....	.....
		Totals.....	.....	16	.....	.....	.....	.....	.....	.....	.....
10		Diseases not Classifiable..	33	.....	.....	9	9	.....	.....	.....	.....
		Unknown, Uncertain,etc	933	.....	68	1707	1775	.....	.....	.....	.....
		Totals of Class 10.....	.....	966	.....	.....	.....	68	1716	1784	.....
Grand Total of all Classes			.....	37133	.....	.....	.....	6992	49300	56292	.....

* Add 45 cases of Scabies.

† Total cases of Parasites in C. H. 59.

The following, Table No. 7, is a selection from Table No. 6 of some thirty-five diseases which caused over five-sixths of the total mortality. The number of such unsatisfactory specifications as "Teething," "Debility," "Marasmus," "Convulsions," etc. is very noticeable; and when the large number of deaths by diseases "unknown" are added to the above, it renders the whole table but a very distant approximation to the truth. Still farther, it is well known by the post-mortem examinations in the Demonstrator's Rooms of the Medical Department, University of La., that many errors occur in diagnosis, which is very markedly the case as to abscess of the liver. Out of less than 150 post-mortems in the past two years, there have been found nearly as many abscesses of the liver as appear in the reports of the total mortality in the city for those years. But notwithstanding all these objections, this table is not uninformative; and to aid the conclusions of students, two comparative columns have been added. These are subject to similar causes of error; and present at least the basis for a comparative conclusion. The comparatively large number of deaths by Consumption, Intemperance, and Casualties is well worthy of attention; and if this table be studied in connection with the monthly reports, it is impossible to avoid the conclusion that very many cases recorded "Typhoid" were probably "Malarial" Fever.

TABLE No. 7.

Causes of the death of 5, in less than 6 of the people of New Orleans who died during the five years 1856-60. Pop. about 801,825.

CHILDREN CHIEFLY.		No. of Deaths in England in 1863 to about 801,825 Pop.	No. of Deaths in Phila- delphia in 1861 to about 801,825 Pop.
1	N. B.—Stillborn and Premature Births.....	1890	*890
2	Whooping Cough.....	217	130
3	Measles.....	236	100
4	Diphtheria.....	398	710
5	Croup.....	433	430
6	Scarlatina.....	497	†1190
7	Cholera, Infantum.....	517	1675
8	Teething.....	897	870
9	Tris. Nascent.....	947	42
10	Infant Debility and Marasmus.....	1190	.....
11	“ Convulsions.....	2031	1290
...	.....	.....	645
...
...	ADULTS AND CHILDREN.	.....	.....
12	Cancer.....	232	292
13	Debility and Marasmus.....	253	272
14	Small-Pox.....	262	620
15	Tetanus.....	315	†232
16	Old Age.....	363	105
17	Diseases of Liver.....	437	36
18	Dropsy and Ascites.....	551	285
19	Diseases of Heart.....	550	300
20	Intemperance.....	610	318
21	Casualties.....	1453	412
22	Viz: Premeditated.....	215	432
23	Accidental.....	910	||90
...	Local Injuries, accidental.....	328	.....
24	Diseases of Brain.....	1745	.....
25	Viz. Inflammation.....	514	150
26	Apoplexy.....	584	472
...	Congestion (?).....	647	380
27	Diseases of Intestinal Canal.....	4220	230
28	Viz: Dysentery.....	1187	490
29	Inf. Stomach and Bowels.....	1293	74
...	Diarrhœa, Ch. Morbus, etc.....	1740	223
30	Diseases of Lungs.....	5575	614
31	Viz: Bronchitis and Catarrh.....	505	316
32	Pneumonia and Congestion.....	1343	.....
...	Consumption.....	3727	1250
33	Fevers.....	7359	198
34	Viz: Typhoid.....	802	944
35	Malarial.....	1315	1160
...	Yellow.....	5242	**2570
...
...	Total.....	31288	420
...	Various other Diseases.....	4879	57
...	Unknown.....	966	.....
...	Grand Total.....	37133	.....

* 1490 St. Louis, 1867, for 801,825 population.

† More than double that of either 1860, 1861 or 1862.

‡ More than double that of either 1860, 1861 or 1862.

|| 164 in 1860.

‡ 460 in St. Louis, 1867, for 801,825 population.

** 1620 in St. Louis, 1867 for 801,825 population.

The following Table No. 8 also selected from Table No. 6 gives an approximative idea of the chief causes of sickness, irrespective of the causes of death. It specifies the diseases for which about ten in every eleven patients were treated in the Charity Hospital. To aid the proper interpretation of this Table, these facts should be remembered; patients who enter the hospital are as a rule much more sick and die in larger number, than an equal number of patients in the city; and about one in every eight hospital patients died, but it is probable that in the city as a whole, there are at least thirty people sick for every one who dies.

In healthy countries it has been calculated that there is about one death in every twenty cases of sickness. An examination of this subject in New York, the most unhealthy city probably in the North, showed in 1864 that of 2,014 policemen, there were during the year, twenty-eight cases of sickness to every death, and that the average duration of the sickness of those who did not die was sixteen and a half days. Many similar facts might be cited. This general conclusion from such researches is important, viz., that the higher the death rate of a place, the greater is the degree to which the standard of health is lowered, and the larger is the number of cases of sickness to the number of deaths. Hence the above estimate of thirty cases of sickness to every death is very certainly not an over-statement of the case for New Orleans. Political economists reflect on this!

No intelligent physician can examine the causes of the 50,000 cases of sickness in Table No. 8 without regarding with sadness the very large proportion which he knows could have certainly been prevented by proper hygienic remedies. When it is reflected that in the whole city there must be a relatively much larger number of cases of malarial fever than in the Charity Hospital; and it is then observed that about five in every nineteen patients even in this hospital were sick from malarial causes;—what other or stronger facts can be needed to show the necessity for drainage? Another important fact in this connection,—the five out of the nineteen were diagnosed unquestionably and directly as malaria, whilst every physician in New Orleans knows well how very many cases of sickness are called by other names, which he feels satisfied are due indirectly at least to malarial poison.

TABLE No. 8.

Chief Causes of Sickness in New Orleans, and for which nearly 10 in 11 of those who entered the Charity Hospital during 5 Years, 1856-60, were treated—

<i>Fevers,</i>	18890
<i>viz:</i> 1.—Malarial.....	14702
2.—Yellow.....	8155
3.—Typhoid	1033
<i>Diseases of Digestive Organs :</i>	7418
<i>viz:</i> 4.—Diarrhoea and Cholera Morbus.....	4277
5.—Dysentery.....	1508
6.—Inflammation Stomach and Bowels.....	519
7.—Dyspepsia, Gastrodyn, &c.....	465
8.—Biliary Derangement.....	256
9.—Hepatic Disease.....	393
<i>Diseases of Lungs,</i>	1440
<i>viz:</i> 10.—Tuberculosis.....	1977
11.—Bronchitis and Catarrh.....	1329
12.—Pneumonia and Congestion.....	823
13.—Pleurisy, &c	311
14.—Local Injuries.....	4201
15.—Venereal Diseases.....	3275
16.—Ulcers, Abscesses, &c.....	2328
17.—Cutaneous Diseases.....	350
18.—Rheumatism.. ..	2678
19.—Intemperance.....	2384
<i>Nervous Diseases,</i>	1891
<i>viz:</i> 20.—Brain and Spinal Cord.....	1370
21.—Neuralgia.....	877
22.—Eye Diseases.....	493
23.—Pregnancy, Parturition and Abortion.....	1283
24.—Debility and Marasmus.....	812
25.—Dropsy and Ascites.....	607
26.—Disease of Heart and Circulation.....	426
	358
Total of the above.....	50033 *

* The total number of cases by all diseases in the Charity Hospital during the 5 years 1856-60, was 56,292.

The following Table No. 9 is regarded as one of the most instructive in the series, and by none does it deserve greater consideration, than by those who argue so loosely about a "floating population," which they neither number nor define. It will be observed, that the year has been divided into two equal parts, for the purpose of contrasting,—the more healthy with the less healthy season, and that half of the year when all its resident and most of its "floating" population is in the city, with the half during which very many residents are absent, and the visitors are comparatively few in number. Notwithstanding this design, it appears that May, placed in the sickly half year was a more healthy month, than November which I have made to begin the healthy half year. The healthiest month, (February) would give a death rate for the whole year of 30.8 per 1000; the most sickly month with yellow fever (September) would give a death rate for the year of 78.6; and the most sickly month without yellow fever (July) would give for the same time 47.5 per 1000. It will be remembered that the death rate for the whole time was 46.3.

The diseases selected for monthly report are those which were most fatal, and supposed to be most influenced by the seasons. It will be observed that notwithstanding the many strangers said to come here to die of consumption there were only 179 (about 5 per cent) more of such deaths in that half of the year when they are very surely in New Orleans, if here at all. No city in the Northern Hemisphere is known to me, where comparatively more deaths by consumption do not occur in this same half year, than in the other half.

It is worthy of notice, that during the epidemic of 1858 there were, compared to the other four years, many more deaths by the indefinitely diagnosed "infantile diseases." This evidence strongly favors the opinion of those who contend that the native as well as the alien born must undergo acclimation, and pay tribute, though to less extent, to yellow fever.

TABLE NO. 9.—*Monthly Report of Five Years, 1856-60, consolidated.*

5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks		5 wks	
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TABLE NO. 10.

Mortality by Sexes, 5 years, 1856-60.	Pop. by Sexes 1 year, 1860, U. S. C.
Deaths of Males, (5 years).....22,675	Population of Males, (1 year).....85,106
" Females, (5 ").....13,960	" Females.....83,569
" Sex Unknown..... 498	
Total	168,675

The above figures would indicate a death rate of males of about 57., and of females of about 36. per 1000 for the 46.3 of the whole population. Excluding the epidemic yellow fever year 1853, the female death rate for the other four years was over 31 per 1000. It is believed that in all the southern yellow fever cities the female is considerably less than the male death rate.

The following table No. 11 is the least satisfactory of all—for two reasons. First, because the deaths by nativities could not be obtained for 1856, and secondly, because for the four other years, so large a proportion of deaths are reported of "nativity unknown."

TABLE NO. 11.

Mortality by Nativities for 4 years, 1857-60.	Population by Nativities, 1 year 1860.
Deaths of natives of U. S. (4 yrs.) 16,166	Natives of U. S.....104,054
" foreign born " 10,827	Foreign born..... 64,621
" nativity unkn'wn " 4,497	
Total.....	Total.....168,675

N. B.—The 104,054 natives of U. S. were 72,527 born in La., plus 13,385 slaves, plus 18,142 born in other States of U. S. The following results from the reports as to deaths by nativities are worthy of attention. They indicate that in epidemic years the death rate of the "foreign born" is much higher than that of the native born; and a very little higher in non-epidemic years.

1st. The death rate of the total population for the 4 yrs. was 48.5
 " " " " " " natives of U. S." " " " 46.8
 " " " " " " foreign born " " " 51.1

2d. The death rate of the total population for the epidemic
 year 1858 was..... 73.1
 " " " " " the native " " " 63.3
 " " " " " foreign " " " 89.1

3d. The report for the non-epidemic year 1859 contains only 271 deaths out of 6347, whose nativity was unknown; and therefore gives a more reliable conclusion than the other years. The results are as follows:

Death rate of the total population for 1859 was.....	41.6
“ “ “ “ native “ “ “ “	41.5
“ “ “ “ foreign “ “ “ “	41.7

The subject of mortality by races possesses great interest for all nations, which, like ours, are so diversely inhabited. Since political events have altered our relations with the negro race, the following statistics have not regarded the distinctions made in the census between free colored and slaves, but have added both together, and report all either as black, colored, or negroes, as likely to prove of most service for comparison in the future. Since negro means simply black man, can the ignorance of this race, and the interested subserviency of many white men be better illustrated, than by their resentment at the application of this word to the “colored” race? Will some scientific radical inform the world whether all men, whatever the race, are not “colored”? and pardon me, until he can substitute a more definitive word, for preferring the distinctive designation of “negro,” recognized by usage, common sense, all ethnologists and physiologists, to the very indefinite term “colored.” Must a southern man, to show that he is “amicus humani generis,” disregard altogether all Lexicographers?

TABLE NO. 12.

Mortality by Races for 5 years, 1856-60.

N. B.—The first two columns present the results calculated from the other four.

YEARS.	Death Rate of Whites,	Death Rate of Blacks.	No. of White Population	No. of Black Population	No. of White Deaths	No. of Black Deaths
1856	37.1	38.1	126,199	26,126	4,693	*996
1857	34.3	43.1	130,780	25,400	4,485	1,096
1858	78.3	44.9	135,340	24,900	10,603	1,118
1859	41.2	43.8	140,000	24,400	5,778	1,069
1860	42.3	50.5	144,601	24,074	6,114	*1,227
Totals and aver'ges for 5 years	46.8	44.1	676,920	124,900	31,673	5,506

* Report imperfect.

By the above table it will be seen that though the negro death rate is for the five years, less than the white death rate, that this is altogether due to the epidemic year 1858; for this being excluded, the negro death rate was larger in each of the four other years. This result corresponds to that of other cities in the United States, as is shown by the following table presented for comparison, and obtained from United States census 1860.

TABLE NO. 13.

For comparison of Mortality by Races.

PLACE.	Years.	No. of years.	Total Death Rate.	White Death Rate.	Negro Death Rate.
Charleston.....	1822-48	27 years	25.8	24.8	26.4
Charleston.....	1822-60	39 years	26.6	26.1	26.9
Baltimore.....	1818-63	38 years	25.9	24.9	31.0
New York.....	1821-63	39 years	31.7	31.3	40.9
Washington.....	1849-60	12 years	20.3	19.8	22.1

MORTALITY BY AGES.

The remainder of this article is devoted exclusively to the most instructive and difficult branch of vital statistics, the mortality by ages. To do full justice to this subject requires more mathematical skill and patience, and larger knowledge of the subject than I possess. The original figures are given from which my tables have been calculated, and from which other instructive tables may be constructed. The writer does not claim perfect accuracy for his calculations, and hopes to renew and amend them in the future.

The last tables in regard to still-births and old age, require no explanation; but the reader will be facilitated by a few words in reference to the series of tables which are first presented; Nos. 14-17.

Table No. 14 gives the deaths by ages for five years, and the population by ages for one year. These figures are the basis for all the other calculations. It must be remembered that the population for one year, must be multiplied by nearly five, or the deaths be divided by five to cause them to correspond for annual calculations.

Tabel No. 15 gives extremely important information, viz., the number of the population at each age to every 1000 of the whole population. To this is added for instructive comparison, a column which shows how many died at each age in the 46.3, who died of all ages in every 1000 of the total population. This same information is conveyed in different form, with some columns for comparison in Table No. 16. Table No. 17 presents the ratio of deaths by age to the population by ages, a much surer test of the health of a place, than the ratio of deaths by ages to the total deaths as given in table No. 16.

TABLE No. 14.

Mortality in New Orleans by Ages, 5 Years 1856-60,—and Population by ages, 1 Year, 1860.

	DEATHS 5 YRS., 1856-60.		POPULATION 1 YEAR, 1860, U. S. CENSUS.
Premature Births.....	126	.....	.....
Still-Born.....	1764	.....	.....
Under 1 Year.....	6428	.....	.....
Total under 1 year.....	.....	8318	3637
1 year and under 2 yrs.	2740	.....	.....
2 years " 5 "	2918	.....	.....
Total 1 yr. " 5 "	.....	5658	18874
5 yrs. and under 10 yrs.	.....	1883	19038
10 " " 15 "	.....	760	15365
15 " " 20 "	.....	1217	15595
20 " " 30 "	.....	6541	36100
30 " " 40 "	.....	5536	30963
40 " " 50 "	.....	3562	18185
50 " " 60 "	.....	1746	6770
60 " " 70 "	.....	934	2890
70 " " 80 "	.....	492	810
80 " " 90 "	.....	261	255
90 " " 100 "	.....	96	85
100 " and over.....	.....	27	28
Unknown.....	.....	602	80
Grand Totals.....	.....	37,133	168,675

In 1858 there were 3913 deaths under 10 years of age, against an average of 2860 per annum for the other four years. This excess of deaths is chiefly remarkable in those 2 to 5 years old.

TABLE No. 15,

Showing in every 1000 of the whole Population the number of persons at the ages specified ; and also, by comparison, the characteristics of the Population of New Orleans by ages.

	No. OF PERSONS IN EVERY 1000 POPULATION.				No. of Deaths in N. O. 1856-60 at each age in every 1000 of the whole pop
	NEW ORLEANS, 1860.	Miss., La., Ark., Texas, 1860.	WHOLE OF U. S. 1860	BALTI-MORE 1860.	
Under 1 Year.....	21.50	29.6	29.7	30.5	*10.4
1 year and under 5 yrs	112.00	134.2	124.3	112.5	6.6
5 years " 10 "	113.00	144.6	132.7	121.0	1.6
10 " " 15 "	91.00	127.9	118.1	106.0	.9
15 " " 20 "	92.50	109.9	106.9	101.0	1.4
20 " " 30 "	214.00	189.9	182.1	191.0	9.0
30 " " 40 "	183.33	123.0	127.9	150.0	7.0
40 " " 50 "	108.00	76.4	83.2	97.0	5.0
50 " " 60 "	40.00	38.2	51.3	53.1	2.2
60 " " 70 "	17.00	17.0	28.2	25.5	1.1
70 " " 80 "	5.00	5.3	11.1	9.5	.6
80 " " 90 "	1.50	1.3	2.9	2.5	.3
90 " " 100 "	.50	.3	.4	.3	.1
100 " and over.....	.17	.1	.....	.1	.03
Unknown.....	.50	.....	.....	.....	.07
	1000.	1000.	1000.	1000.	46.3

* Including the Still Births, which were 2.3 of the 10.4 deaths under 1 year and also 2.3 of the 46.3 deaths of the population of all ages, per 1000 pop.

Table No. 15 shows that New Orleans has comparatively a very large population from 20-50 years old, (though not as large comparatively as that of Paris), and a smaller population than usual under 1 year, as also over 50 years, but more especially over 70 years of age. Any great excess of population from 20-50 years of age, or at any period of life has necessarily the effect of diminishing the pro-rata population of all other ages. In simpler language, if any one age has, say 100 more than usual in 1000, this leaves, of course, 100 less to be distributed in the other ages in order to make up the 1000 of all ages.

TABLE NO. 16.

Showing how many died at the different ages specified, in every 1000 deaths, (of the total 37,133 deaths) ; with comparative Tables

	New Orleans. Average of 5 yrs. 1856-60, in- cluding Still- Births and ex- clud. Unknown	Philadelphia. Average of 7 years 1862-68- Deaths 34,641.	New Orleans. Excluding Still-Births and Unknown.	" London Pru- dent. Assur'ce Co." Average of 3 yrs. 1864-66
Under 1 year	228.00	270.00		
1 yr. and under 2 yrs.	75.00	85.00		
2 yrs. " " 5 "	80.00	86.00		
5 " " " 10 "	38.00	48.00		
[0 " " " 10 " ]	.....	.....	389.	432.6
10 " " " 15 "	21.00	17.00		
15 " " " 20 "	33.00	30.00		
[10 " " " 20 " ]	.....	.....	57.	91.3
20 " " " 30 "	179.00	109.50	189.	66.1
30 " " " 40 "	151.00	93.50	160.	51.2
40 " " " 50 "	98.00	75.00	103.	72.4
50 " " " 60 "	48.00	60.50	50.	114.5
60 " " " 70 "	25.50	57.50	27.	105.7
70 " " " 80 "	13.30	45.00	14.	51.5
[80 and all over ]	.....	.....	11.	14.7
80 yrs and under 90 "	7.00	22.50		
90 " " " 100 "	2.50	4.80		
100 and over.....	.70	.70		
	1000.00	1000.00	1000.	1000 00

N. B.---The first two columns are comparable with each other, as also the last two. The differences between the first and third columns are due entirely to the fact, that in the first, the Still-births are included, and in the third excluded.

A superficial observation of the ratio of deaths under 1 year of age is calculated to lead to the very erroneous conclusion, that the death rate in New Orleans, 228. was necessarily less than the 270. in the next column for comparison. The reader has been warned in the introductory of this article, against this often committed error. Take the above as an example to illustrate this, and the explanation is as follows: The annual deaths of all ages in New Orleans, in ratio to the population, were more than double such deaths in the city of the 2d column. Say 2000 in the former to 1000 in the latter, therefore of course, the 228. of New Orleans would be double, making 456. to every 270. of such deaths in that city. This explanation applies to all the other ages, and becomes a terrible truth when applied to those aged from 20 to 50 years, as well as to those under 1 year. One modifying fact must not be forgotten in seeking the truth, viz., the relative number of the population at each age, given in Table No. 15. It is seen there, that New

Orleans has an excess of population from 20 to 50 years of age, therefore there should be an excess, (but remember, only a *corresponding* excess) of deaths at that period of life. Keeping in view these facts, the reader will be prepared to appreciate the information contained in table No. 17, which follows. It is important to add, that unless the three Tables, Nos. 15, 16, and 17 be studied as a whole, each imperfect by itself, but aiding the interpretation of the others, false conclusions will be unavoidable. Any reports of mortality by ages destitute of these three sets of facts are necessarily imperfect and most unsatisfactory.

TABLE NO. 17.

Showing the annual deaths per 1000 to every 1000 living of the ages specified, i. e., if 46.3 persons died in every 1000 of the whole population of all ages, how many died in every 1000 of those aged, say 20 to 30 years old? Answer,—37. Vide infra.

AGES SPECIFIED.	NEW ORLEANS.	5 cities consoli'd viz., N. Y., Philadelphia, Baltimore, Boston, Providence U. S. C.	" London Prudential Assurance Co." 3 years, viz., 1864-66.
All under 5 yrs. still-births included.	126.0	.....	.....
" " " " excluded.	110.0	.....	.....
" " "	.....	86.5	.....
5 years old, and under 10 years.....	14.7	11.0	.....
0 and under 10 years.....	[+66.]	.....	+35.37
10 and under 15 years.....	10.0	4.5	.....
15 and under 20 years.....	15.8	6.9	.....
10 and under 20 years.....	[13.0]	.....	5.84
20 and under 30 years.....	37.0	10.6	11.99
30 and under 40 years.....	36.4	14.0	12.33
40 and under 50 years.....	40.0	18.1	18.28
50 and under 60 years.....	52.5	25.1	37.93
60 and under 70 years.....	66.0	44.1	77.97
70 and under 80 years.....	124.0	90.8	196.63
80 and all over 80 years.....	[213.0]	.....	366.45
80 and under 90 years.....	209.0	161.8	.....
90 and under 100 years.....	236.0	271.6	.....
N. B.—No. of Deaths per 1000 population of all ages.....	46.3	24.10	21.67

* Not stated whether Still-births are included or excluded.

† Still-births Excluded.

MORTALITY UNDER ONE YEAR OF AGE.

Table No. 17 omits to give the number of infants who die before they reach one year of age. All hygienists regard this as one of the most reliable of all tests of the sanitary condition of a

place. The delicate, sensitive physique of the new-born child is destroyed by morbid causes, which an older age resists with greater success, whilst every age feels the evil influence. None will dispute the hygienic laws that, "where children most die there the survivors are apt to be most sickly," and that "a local mortality of children must almost necessarily denote a high local prevalence of those causes, which determine a degenerate race."

The reader is referred to the study of Still-births, page 58, for the reasons which justify the conclusion that the annual births in New Orleans, 1856-60 did not exceed 4600. This is the basis for the following average estimates which are amenable to the objection, that the number of births is estimated, and not officially reported. If the births were more, then the results would be more favorable, and *vice versa*. Of the 4600 born, 378 were born dead, leaving 4222 born alive. Of these there died under 1 year of age 1286; which equals 304 deaths in every 1000, or 1 death in less than every 3.3 born alive. Now compare the figures in

TABLE NO. 18.

Which shows how many Infants die before the expiration of the first year of Life in every 1000 infants born alive.

PLACE.	Years.	Length of Time.	No. of Deaths under 1 yr. of age in every 1000 infants born alive.	Ratio of 1 death under 1 yr to every — born alive
New Orleans.....	1856-60	5 years	304.0 =	1 to about every 3.3
New York.....	1859-61	3 years	257.5 =	1 " " 4.0
Baltimore	1850-60	11 years	207.9 =	1 " " 4.8
Philadelphia	1859-61	3 years	188.8 =	1 " " 5.3
England	1860	unknown	170.0 =	1 " " 5.9
France	1860	"	200.0 =	1 " " 5.0

The deaths in France are reported in the above table as 1 in 5; however Bouchut in his "Hygiène de la première enfance" 1866 says, "La mortalité des enfants en général, prise dans les différentes conditions sociales, est aujourd'hui, en France, d'un sixième pour la première année, tandis qu'elle était autrefois d'un quart." The very bad condition of that "autrefois" is not left in doubt.

Whatever be the truth at present [as to France, this much is certain, that the death rate of healthy places *ought* not to exceed 1 in 6; that it certainly does not exceed 1 in 5; and that I lack the ingenuity requisite to construct a reasonable estimate which can

at the best make out a better proportion for New Orleans (1856-60) than 1 in 4, whilst I believe that 1 in 3.3 is more favorable than the actual truth.

STILL-BIRTHS.

When not otherwise stated, the above term has been made, by the proper additions, to include the premature births. New Orleans Boards of Health have from time immemorial claimed that New Orleans was not as sickly as its reports and the under-estimates of the population by the United States census made it; and also, as a part of the argument for the benefit of the living, that the still-births were excessive, and therefore should be deducted from the gross total of annual deaths. This excess has been invariably ascribed to the ignorant, conscienceless midwives who are permitted by the laws to ply their avocation. No one can exceed me in denouncing both such midwives and such laws, yet it is well to examine seriously whether in truth there be any such comparatively great excess as has been claimed. To the facts.

TABLE No. 19.

Showing Still Births in New Orleans for 5 years, 1856-60, and the Still-Births with other interesting facts in the N. O. Charity Hospital for the same 5 years, and also for 13 and five-sixths years.

Place.	Years.	Length of Time. *	Total No. of Still-Births.	Total No. of Births.	Total No. of Male Births.	Total No. of Female Births.	No. of cases of Twins.
N. Orleans	1856-60	5 yrs	1890	unkn'wn	unkn'wn	unkn'wn	unknown
N. O. Ch. H	1856-60	5 yrs	60	570	330	240	5
" "	1852-68	*13 5-6 y	168	1547	798	749	18

* These 13 and five-sixth years include the 5 years 1856-60, but do not include the time from Nov. 1861 to Jan. 1864, nor the year 1865, as the reports for these specifications have not been procured.

To interpret the above figures instructively for comparison requires that some three facts should be obtained, viz: 1st. The ratio of still-births annually to the total population; 2d, (and most important) the ratio of annual still-births to the total annual births; 3d, (and least important) the ratio of annual still-births to the total annual deaths.

Now we have the total population, as also the total deaths; but to supply all the above facts, it is most necessary to know what was the No. of annual births. In the absence of all reports,

this can only be obtained by approximative estimation, which will be undertaken prior to furnishing information as to any of the three above facts.

Approximative estimate of the No. of annual births in New Orleans, during the 5 years 1856-60. The following four series of facts are presented, viz :

1st. U. S. census gives for 1860, population "under 1 year" 3637
Board of Health gives for 1860, deaths under 1 year :

viz., Still-births.....	334	} 1467
Other deaths under 1 year of age.....	1133	

N. O. Board of Health gives, "ages unknown," divided
pro-rata for those under 1 year of age... .. 117

Total population and deaths under 1 year in N. O. in 1860 5221

Thus if the records be correct, the births in 1860 could not have been less than (3637 *plus* 234 =) 3971, nor more than 5221. How is the difference between these numbers (1133 *plus* 117 =) 1250 to be divided ; for it is evident, that, whilst many of these 1250 who died in 1860, had been born in 1860 ; it is also evident that many of these who died in 1860 "under 1 year of age" had been born in 1859. My own calculation from these figures is that 4700 births in 1860 must be a very close approximation to the truth.

2d. Statistics for many years and of many healthy countries give as an approximative estimate of the number of births in a total population, 1 birth to every 25 to 35 inhabitants. Now 4700 births in 1860 is to 168,675 population in 1860 as 1 is to 35.8. (N. B. As the other four years of 1856—1860 had a less population, the births for the other years were less than 4700).

3d. English statistics (the most healthy, and considered the most reliable) prove that the annual births yielded by every 1000 of the female population from 15 to 55 years of age is from 100 to 120. The 100 for sickly, and the 120 for healthy sections of the country. The United States census gives to New Orleans in 1860 a female population aged from 15 to 55 years, about 49,300, which would yield in healthy England from 4930 to 5916 babies annually.

4th. The records of all times and places establish beyond question, that the causes which determine a high death-rate tend likewise to determine a low birth-rate. The exceptions occasionally found to this law owe their existence to the fact that some cause of death is particularly active amongst the unproductive members of the community. As, for example, measles may increase the death rate to a very decidedly larger figure without sensibly affecting the birth-rate. But this is generally a temporary cause as affecting the death-rate and does not invalidate the rule—that the birth rate is in inverse ratio to the death-rate; the higher the latter, the lower the former.

These four series of facts satisfy me, that an estimate of 4000 births annually for each of the five years 1856-60 is an over rather than an under estimate. One thing is very certain, that the larger the number of births, the less excessive becomes the number of still-births. Now those who have claimed an excess of still-births, have also claimed a larger population, and therefore more births. A study of the facts will force them out of one position, or the other. In the mean time, let us seek for these facts, regardless of the *opinions* of any body.

TABLE No. 20,

Showing the Annual Ratio of Still-births to Population, Births and Deaths; also the ratio of Annual Births to Population.

PLACE.	TIME & DATE.	Ratio of Still-births to 1000 Population.	Ratio of Still-births to every 1000 Births.	Ratio of Stillbirths to every 1000 Deaths.	Ratio of Births to every 1000 Pop.	Ratio of Births to Females from 15 to 55 yrs of age.	REMARKS.
New Orleans.....	5 yrs., viz—1856-60.....	2.3	*80.0	51.0	*35.8	*96.	*Estimated by S. E. C. on basis of 4600 [annual births,
Charity Hospital, N. O.	13 5-6 yrs. viz—1852-68	.....	108.6	.....	.....	.....	+Dr. Collins.
Dublin lying in Hospital	7 years.....	.....	†67.0	.....	.....	.....	1861-66 give similar figures.
Paris.....	1 year, viz—1865.....	2.6	80.0	85.6	32.5	.....	.....
“ Variations in different districts.....	1 year, viz—1865.....	1.7-3.5	.....	.....	.....	.....	.....
Boston.....	“ “ 1861.....	†2.0	†64.5	.....	32.4	.....	.....
St. Louis.....	“ “ 1868.....	2.3	.....	103.0	.....	.....	.....
Philadelphia.....	3 years, viz—1860-62..	1.2	40.0	50.0	27.0	.....	.....
Baltimore.....	1 year, viz—1868.....	1.1	.....	58.0	.....	.....	.....
Cincinnati.....	“ “ “.....	1.3	.....	92.0	.....	.....	.....
England and Wales.....	10 years, viz—1851-60..	.....	.....	.....	||34.0	||120.0	†Exclusive of Premature Births. Other [years similar.
United States.....	1850.....	.....	.....	.....	27.5-35.0	.....	20. and 100. the lowest.
France, Prussia, Austria and Russia.....	Several yrs., about 1840	.....	.....	.....	25.-35.	.....	§Estimates of Dr. Wynne and Prof. [Tucker.
Vienna.....	1863-65..	.....	.....	42.5	.....	.....	.....
New York.....	1852.....	.....	.....	66.6	.....	.....	.....
“.....	1868.....	2.7	76.0	88.2	.....	.....	.....

To the above table it may be added, that statistics have not yet satisfactorily established that fact which is the best test, and of most importance, viz., the normal ratio of still-births annually to the total number of annual births. A recent New York report gives on this subject the most complete statistics in my possession which regards as a fair normal standard of healthy countries, about 56 still-births to every 1000 births.

It will be seen by the above table, that New Orleans much exceeds this healthy standard, as it rises to 80 per 1000, unless I have much under-estimated the annual births. Still the above table shows conclusively that in respect to this as all other tests, New Orleans has no such *comparative* excess, for places are to be found where the still-birth ratios in every particular are both higher and lower. The striking difference in favor of the city when compared with the Charity Hospital is worthy of special notice by the denouncers, on the still-birth argument, of the remorseless midwives. In any case, it is difficult to believe that midwives, however incompetent, aiding in the vast majority of cases the simple and natural process of parturition, could by unintentional ignorance kill enough babies out of much less than 4600 (of whom in fact only an average of 378 were still-born) to affect sensibly a death rate founded on over 7000 annual deaths. Deduct all the still-birth, and the 46.3 death rate is reduced only to 44. per 1000. One fact positively proved, in comparing the still-births in New Orleans, to those in the Charity Hospital, in Paris, New York, etc., is that either the still-births in New Orleans were not excessive, or that the population was less numerous or less productive than given by the United States Census.

The study of table No. 20, with other such facts in my possession have prompted the question, whether a high extra uterine death rate indicates a high intra uterine death rate? I know of no researches on this subject, but feel persuaded that an affirmative answer would accord with physiological laws.

OLD AGE, OR LONGEVITY.

It has been claimed time and again that the census of 1850 proved conclusively that Louisiana and Texas had more centennarians than any other sections of the United States. So

often has this been asserted that many physicians of New Orleans have, by the mere repetition of this fable, come to believe it. I regret to say, that in my younger days, when I relied much more on opinions and much less on facts for my conclusions, than experience now permits me, I published an article repeating this assertion, and blindly argued as others, that therefore the healthfulness of the climate was established. Now the facts are, that in the first place it is by no means proved, nor is it accepted that longevity necessarily indicates a low death rate for a population; and in the second place the broad assertion is absolutely false as to the white population of these States. The truth is, that the excess claimed is found altogether in the negroes. Now when the subject of longevity is more fully studied, the most marked differences are found as to the three races, Caucasians, Africans, and Indians; and these differences are diminished when in addition to the centenarians, all over 90 years old are also taken. It is evident that a climate which permits an excess of the former, ought a *fortiori* to have an excess of the latter. The following table of 14 states, etc., selected at random, will, I think, settle this question conclusively and finally. As it has been much discussed, I have taken the trouble to add to the first six columns which give the approximative results, the last nine columns, (copied from U. S. census of 1850, and of 1860) from which the results were obtained by calculation.

TABLE No. 21, of Longevity, in 11 States, etc., of United States. Census of 1850 and 1860.

PLACE.	Year.	Returned in those 90 yrs & over.						WHITES.				NEGROES.				INDIANS.			
		No. of Whites 90 years* and over in every 10,000	No. of Negroes 90 years and over in every 10,000	No. of Indians 90 years and over in every 10,000	No. of Whites 100 years & over in every 10,000	No. of Negroes 100 years & over in every 10,000	No. of Indians 100 years and over in every 10,000	Total No. of White Population.	Total No. of Whites 90 years and over.	Total No. of Whites 100 years and over.	Total Number of Negro (Slave, Free, Col'd, etc)	Total No. of Negroes 90 years and over.	Total No. of Negroes 100 years and over.	Total Number of Indian population.	Total No. of Indians 90 years and over.	Total No. of Indians 100 years and over.			
Orleans Parish.....	1850	2.4	30.3	.....	.7	11.0	.....	91,431	22	7	28,029	85	31	.....	.....	.....
“	1860	3.7	24.0	.....	.6	8.6	.....	149,063	56	9	25,428	61	22	.....	.....	.....
Louisiana.....	1850	2.7	13.3	.....	.8	5.9	.....	255,491	70	21	262,271	351	155	.....	.....	.....
“	1860	3.5	12.6	.....	.6	4.8	.....	357,456	126	23	350,546	443	169	.....	.....	.....
Texas.....	1850	2.8	7.3	.....	1.5	2.7	.....	154,034	45	23	58,558	43	16	.....	.....	.....
“	1860	1.3	7.0	.....	.3	2.9	.....	420,891	57	12	183,324	130	54	.....	.....	.....
Mississippi.....	1850	2.8	9.4	.....	.6	3.9	.....	295,718	85	18	310,808	293	122	.....	.....	.....
“	1860	2.5	9.0	.....	.5	3.8	.....	349,303	89	18	418,163	375	169	.....	.....	.....
Florida.....	1850	3.1	20.6	.....	.4	8.4	.....	47,203	15	2	40,242	83	34	.....	.....	.....
“	1860	1.4	15.4	.....	.1	4.8	.....	77,747	11	1	62,677	97	30	.....	.....	.....
South Carolina.....	1850	8.7	14.0	.....	1.0	4.5	.....	274,563	240	29	393,944	552	177	.....	.....	.....
“	1860	6.5	14.9	.....	.8	3.7	.....	291,300	189	25	412,320	615	155	.....	.....	.....
Dist. Columbia.....	1850	3.4	17.4	.....	.0	5.8	.....	37,941	13	0	13,746	24	7	.....	.....	.....
“	1860	2.6	23.0	.....	.1	5.6	.....	60,764	16	1	14,316	32	8	.....	.....	.....
Maryland.....	1850	4.6	23.2	.....	.4	7.0	.....	417,943	194	17	165,091	384	114	.....	.....	.....
“	1860	3.4	20.5	.....	.3	6.0	.....	515,918	175	16	171,131	352	102	.....	.....	.....
New Jersey.....	1850	4.4	30.3	.....	.2	6.2	.....	465,509	206	10	24,046	73	15	.....	.....	.....
“	1860	3.4	23.2	.....	.1	4.7	.....	646,699	226	9	25,336	59	12	.....	.....	.....
Maine.....	1850	5.8	22.0	.....	.2	.0	.....	581,813	342	13	1,356	3	0	.....	.....	.....
“	1860	7.8	.0	.....	.3	.0	.....	626,947	488	20	1,327	0	0	.....	.....	.....
Vermont.....	1850	8.4	83.0	.....	.2	27.8	.....	313,402	263	8	718	6	2	.....	.....	.....
“	1860	10.6	84.0	.....	.4	28.0	.....	314,369	334	14	709	6	2	.....	.....	.....
Illinois.....	1850	1.4	22.0	.....	.1	5.5	.....	846,034	124	15	5,436	12	3	.....	.....	.....
“	1860	1.5	23.5	.....	.2	9.1	.....	1,704,291	266	32	7,660	18	7	.....	.....	.....
Michigan.....	1850	1.8	7.7	37.2	.2	7.7	.....	395,071	74	7	2,583	2	2	.....	.....	.....
“	1860	1.9	10.3	.....	.1	1.4	.....	736,142	146	10	6,800	7	1	6,172	23	6
New Mexico.....	1850	20.6	.0	.....	6.5	.0	.....	61,525	127	40	.....	.....	.....	10,452	38	19
“	1860	17.3	.0	36.4	2.9	.0	18.1	82,924	144	24	.....	.....	.....	.....	.....	.....
California.....	1850	.8	.0	.....	.0	.0	.....	91,635	8	0	.....	.....	.....	.....	.....	.....
“	1860	.8	.0	72.5	.2	.0	30.9	323,177	28	9	.....	.....	.....	17,798	129	55

*In every instance, those "90 yrs and over," include those of the same specification "100 yrs and over," though the latter are also given in separate columns.

A glance at the above Table, No. 21, will show the following facts, viz:

1. The white centennarians in Orleans Parish, and in Louisiana, are exceeded by those in South Carolina, and very much, by those in New Mexico.

2. The whites over 90 years in Orleans Parish, and in Louisiana, are exceeded by those in South Carolina, Maryland, New Jersey, Maine, Vermont and New Mexico.

3. The States having the most settled population, sending off many young emigrants, and retaining the old inhabitants, have the largest number of the aged.

4. The census of 1850 as well as of 1860 show that the centennarians, and all over 90 years old of the Indians, much exceed the same population of negroes, and these very much surpass the whites. This indication may be true, but none the less, I am fully convinced of the justice of conclusion No.

5. The more ignorant, and the less truthful a race, the larger the number of centennarians to be found in the population.

A credulous census taker or any body can get over half of the dried up old darkies in Louisiana, for an extra chew of tobacco, to answer to any age desired. If the cue had been given beforehand, the venerable centennarian would recall with gusto the landing of Columbus, or the burial of DeSoto. I learn from one having experience, that in this regard the Indians are worse than the negroes.

Madame du Pampadour said to that very shrewd charlatan, the Count de St. Germain, "According to Madame de Gergy, you must be more than a hundred years old."

"That is not impossible, said the Count laughing, but it is much more possible that the good lady is in her dotage."

ERRATA.

The following errors of serious consequence have been detected.

Page 10, 10th line from bottom, for "(25 per cent", read (2.5 per cent.

" 22, under "Remarks," for "1032-5, read 1832-5.

" 36, 1st column, for "643," read 648.

" 36, 4th Note, for "647," read 647.

" 44, Two last columns of Table No. 7. All the numbers from "157, 472," to "13, 57," inclusive, belong to Specifications, and should have been printed, one line lower, *e. g.*, 150 and 472, belong to "Inflammation," and not to "Diseases of Brain"; "2000," and "2570," belong to "Consumption," and not to "Pneumonia and Congestion"; with the same correction for the others.

Page 46, "Diseases of Lungs"—for "1440" read 4440.

" 54, caption of 3d column, erase "Deaths 34,641".

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(End of Article No. 1 on the Vital Statistics of New Orleans.)

ART. II.—*The Microscopical Anatomy of the Human Liver*: By
Dr. H. D. SCHMIDT, of New Orleans.

(Continued from October No.)

Of the arrangement of the vessels, ducts etc., within the different parts of the capsule of the liver.

1. *Within the capsule of the Portal vessels.*—The hepatic artery, while dividing into its larger branches, and before entering the substance of the liver, furnishes small branches to supply its own walls, those of the portal vein, hepatic duct and lymphatics, and the neurilemma of the hepatic plexuses of nerves with blood, which is returned by similar branches to the *portal vein*. Beside these, there are others given off, which, in company of small branches of the portal vein and hepatic duct, enter the substance of the liver; their distribution will be described hereafter. The duct here receives numerous branches of the ducts of the plexuses of hepatic glands, which have been mentioned above.

The main branches of the *portal vessels*—as we may term the portal vein and hepatic artery with the accompanying hepatic duct—resulting from the divisions of the parent trunks, enter the substance of the liver, and continue to divide and sub-divide; while passing toward the surface of the organ; in a manner as has already been described. They are always found close to each other, held together and enveloped by that prolongation or process of the common capsule of the organ, called the “capsule of the portal vessels,” which, of course, diminishes, in proportion to the calibre of the vessels formed by the various sub-divisions, until it finely disappears entirely by blending with the coats of the finest branches.

All the branches of the *hepatic artery* resulting from its various divisions and sub-divisions—excepting those finer ones that enter the parenchyma, usually termed “lobular”—send off a set of smaller ones, which are destined to supply the coats of the vessels, the nerves, and also that extensive system of hepatic glands with blood. The size of these branches is proportionate to the calibre of the vessel from which they spring, and the manner in which they are distributed is peculiar. Having arisen from their respective vessels, they divide and sub divide in accordance to their size, and then anastomose with each other on the inner sur-

face of the capsule. From these anastomoses, a number of branches arise which are variously distributed, (Fig. 3.) Some of them proceed to the coats of the vessels and ducts, and also to the plexuses of nerves; others to the plexus of hepatic glands; and others again pass directly to the parenchyma. This division, however, must not be adhered to very rigidly, as we frequently observe one branch supplying different adjacent parts. Beside those already mentioned, there are others which pass to the capsule of the *hepatic veins*, in order to supply the coats of the latter. Lastly, there are some branches, which, penetrating to the external surface of the capsule, form these small anastomoses from which principally the smaller inter-lobular and lobular branches take their origin. The arterial branches just described, of course, are accompanied by similar ones coming from the *portal vein*, in order to return the blood carried to the various parts by the arteries. The arrangement of these veins, however, differs a little from that of the arteries. After they have arisen from their parent trunks of the portal vein, unlike the arteries, they remain not at the internal surface of the capsule to sub-divide and form anastomoses, but penetrate at once into the tissue of the capsule. Here, from their sub-divisions, an extensive venous plexus is formed, from which, ultimately, all those smaller branches arise that accompany the arterial branches above described.

The *hepatic ducts*, resulting from the various sub-divisions of the main trunk—always corresponding with those of the portal vein and hepatic artery—give origin to a number of small branches, the largest of which accompany the inter-lobular veins and arteries, while the smaller ones proceed directly to the parenchyma. All branches of the hepatic ducts—with the exception of those which enter the parenchyma, commonly called “lobular,” and also the finer “inter-lobular”—are joined by numerous fine communicating branches from that plexus formed by the ducts of the hepatic glands.

The *nerves* within the capsule of the portal vessels are numerous; they form a complicated plexus, principally around the artery. The diameter of the finest branches, I observed, was 1-2100 of an inch; accompanying an artery of 1-800 of an inch;

they still formed a plexus. The investigation of the termination of the nerves would necessarily involve a great deal of time. Not being able to devote any more to the subject for the present, I am obliged to postpone this part to a future period.

The *plexus* formed by the *ducts* of the *hepatic glands* in the capsule of the portal vessels is very extensive. It communicates—as already noticed—by numerous branches with the hepatic ducts, and it is also joined by many branches of the plexus of lymphatic vessels.

The *lymphatic vessels* within this capsule form a plexus which communicates by small branches with the small hepatic ducts and the plexus of the glands; the rest joining each other, enlarge as they proceed until they take their exit from the liver.

2. *Within the capsule of the hepatic veins.*—The branches of the hepatic artery which proceed to the capsule of the hepatic veins divide and anastomose freely with each other; their diameter is about from 1-100 to 1-150 of an inch. The anastomoses thus formed give origin to smaller branches of about 1-225 of an inch diameter, which, by anastomosing with the former, render the meshes of the network considerably smaller and more complicated. Finally, still smaller branches arise from this network, a number of which are seen to terminate in the capillaries of the adjacent parenchyma, while the rest proceed to the fibrous coat of the hepatic veins within which they form a plexus with large meshes.

The portal vein sends a few short branches from which smaller ones arise, which, in their distribution, correspond to those of the artery.

A few small branches of the hepatic duct are occasionally met with, which, however, soon terminate in the “biliary tubules” of the parenchyma.

There are also plexuses of the ducts of the hepatic glands found in the capsule of the hepatic veins; the glands belonging to them are, for the greater part, simple.

The lymphatics of this region are very numerous, and form—as in the other parts of the capsule of the organ—very extensive plexuses.

Of the nerves I can make no definite statement, although I do not entertain any doubt of their presence.

3. *Within the capsule surrounding the snrface of the liver.*—Within the substance of the liver, the hepatic artery sends off branches of considerable size, which penetrate to the surface. Here, they divide into smaller branches—about 1–125 of an inch in diameter ; which, anastomosing with each other, form an extensive net-work of large meshes. From this net-work, smaller branches arise to form a set of anastomoses of smaller meshes, which, in their turn, give origin to still smaller branches, whose subdivisions, finally, terminate in the capillaries of the parenchyma.

Branches of the portal vein also penetrate to the surface of the liver, where they—without forming any anastomoses—soon subdivide to terminate, like those of the artery, in the capillary network of the parenchyma.

The termination of the branches of the hepatic artery and portal vein on the surface of the liver in the capillary network of the parenchyma, can readily be seen when well injected. Those of the artery have been described by some anatomists, as terminating in a *capillary plexus* of large meshes from which the branches of the vein arise. Upon a superficial examination, it is apparently true that the termination of the artery is a broken network of large capillaries ; by minute examination, however, it will be seen that this is no complete network, but only the transition of the ultimate branches of the artery into the capillaries of the parenchyma. Even if this were not proved to be the case, it would be difficult to believe that one vessel should terminate in another, when the current of the blood in both runs in the same direction.

Upon the closest examination of the best injected specimens, I have not been able to detect the slightest trace of branches, sent from the hepatic artery to the peritoneal covering. As, however, the peritoneum is not properly a component part of the liver, there is no reason for expecting that it should be nourished by the hepatic artery. It is very easily separated from the capsule.

Here and there, in the capsule, we meet with small branches of the hepatic duct, which, however, soon terminate in the “biliary tubules” of the parenchyma. I have seen such branches of considerable size at the posterior surface of the liver, where it is devoid of peritoneal covering.

The lymphatic vessels of the capsule on the surface of the liver are numerous, and form a beautiful and extensive network of large meshes, (Fig. 2.) The vessels composing these meshes, are almost as fine, or in some places, even finer, than a capillary blood-vessel. Some times one is seen for a short distance to enlarge in diameter, when, joining another, it will be reduced again to its former size. The larger branches, arising from the plexus, join another, formed by larger vessels; and the latter communicate with still larger meshes; the vessels of which can be distinguished by the naked eye. From the latter, those vessels arise that proceed to the lymphatic glands in the vicinity of the liver. Some lymphatic vessels always accompany the branches of the hepatic artery.

The nerves ramifying in the capsule under consideration, follow the course of the artery, I have not traced them to their termination.

In taking a final view of the distribution of the vessels, etc., within the different parts of the capsule, we find everywhere, branches of the hepatic artery forming anastomoses, from which all other branches, destined to supply the different components of the organ with blood, take their origin. The distribution of the portal vein is similar, except in the "capsule of the portal vessels," where the plexuses, formed by its branches, are most abundant in the vicinity of the "hepatic glands," which are exceedingly numerous in this situation, on account of the close proximity to the hepatic ducts into which they empty. The lymphatics are also equally distributed throughout all parts of the capsule.

It is obvious that the main function of the capsule of the liver with its prolongations, is simply to support and bind together, or hold in their respective places, the various vessels, ducts, lymphatics and nerves of the organ; it is, therefore, analogous to the function of the various fasciæ and sheaths of blood-vessels and nerves in general.

Termination of the portal vein and hepatic artery in the capillaries of the parenchyma. Commencement of the hepatic veins. Structure of the vessels.

Some of the branches arising from the anastomoses, formed by

the portal vein in the capsule of the "portal vessels," pass into the parenchyma and give origin to those which finally enter the so-called "lobules"—*imaginary sub-divisions*—of the human liver. These inter-lobular and lobular veins are accompanied by one, or sometimes two, similar branches derived from the anastomoses of the hepatic artery. The mean diameter of the former is 1-570 of an inch, that of the latter, 1-1200 of an inch; but frequently the lobular branches of the artery are almost as large as those of the vein. After having entered the lobules, both the branches of the vein and artery, send off their ultimate ramuscles from which the capillaries of the blood arise. Thus the portal vein and hepatic artery finally join each other in a common capillary network, (Fig. 1.) The termination of this net-work takes place in the smaller branches of the hepatic veins, which were named by "Kiernan," "the intra-lobular hepatic veins." By the union of these, larger branches are formed, which have been termed the "inter-lobular hepatic veins," from the fact that they run between the lobules.

These, in their turn, unite to form still larger branches, until by repeated junctions, the larger trunks of the hepatic veins are formed. Those venules, however, coming from lobules, adjacent to the various trunks, empty directly into them, without passing first through a series of increasing vessels. Thus, I have observed small hepatic venules, 1-350 of an inch in diameter, empty into the largest hepatic venous trunks.

In the human liver, it is difficult to define the exact termination of the "inter-lobular" and the commencement of the "intra-lobular" vessels by their diameter or length. The best way of distinction would be to call them "intra-lobular," as long as they continue to receive the capillaries of the parenchyma, and "inter-lobular," when they have ceased to do so.

The average diameter of the inter-lobular hepatic veins is about 1-75 of an inch. Their course through the parenchyma of the organ is straight. The intra-lobular veins arise almost at right or slightly acute angles from them, and have a diameter of 1-250 to 1-200 of an inch. I have, however, seen some branches, 1-140 of an inch in diameter, still receiving capillary vessels. The intra-lobular hepatic veins mostly terminate in a bifurcation,

the branches of which have a diameter from 1-1000 to 3-1000 of an inch; but frequently, before terminating, other very short branches are seen arising from them at right angles.

It has already been mentioned that the larger trunks of the hepatic veins run almost at right angles with those of the portal vein and hepatic artery, and that the branches resulting from the first sub-divisions of these vessels, next assume a course almost parallel to each other, and, at the same time, radiating throughout the organ. The finer branches, however, cross each other again at right angles like the original trunks from which they descended.

Structure.—After the capsule is removed from the portal veins, their walls consist only of two coats. The outer one is thick but of a loose texture, composed of very coarse bundles of fibrous tissue intermixed with the elastic element; the inner one is a thin and dense fibrous membrane, lined by an epithelium, constituting the serous coat of the vessel. The cells of the epithelium are hexagonal, containing a round or oval nucleus with granules; their diameter decreases with that of the vessels which they line; in the larger vessels it ranges from 1-3000 to 1-2250 of an inch, in the smaller ones it is not more than 1-5000 of an inch. The finer veins, near their transition into the capillaries, are only lined by nuclei. I have not been able to demonstrate satisfactorily any muscular fibres in the walls of the portal veins. The vasa vasorum, by which they are nourished, are derived from the plexus of small arteries in the capsule, previously described. They penetrate into the external coat of the vessel to terminate in a large meshed net-work of large capillaries. The venules arising from these proceed to join that plexus of small portal veins embedded in the capsule. The limited supply of blood sent to the walls of the portal veins may be attributed to the absence of the muscular element.

The walls of the hepatic arteries, after the removal of the capsule, consist of three distinct coats. The first, or external, is fibrous and more dense than that of the portal veins, especially, where it rests upon the middle or muscular coat. This is of considerable thickness, and consists of a layer of longitudinal, and another of circular, smooth, muscular fibres. The internal is the

serous coat; it is lined by the same epithelium as the portal veins. The vasa vasorum are very abundant in the external coat of the hepatic arteries. Derived from the small arterial plexus within the capsule, they form a set of anastomoses in the external coat near its outer surface; but, if the outer portion of this coat is raised, a network with smaller meshes is found beneath. These meshes vary in size, neither are the vessels composing them uniform in diameter, some being 1-500, others 1-2000 of an inch thick. As the network approaches the muscular layer, its vessels become considerably smaller, their diameter ranging from 1-2000 to 1-3000 of an inch. In the muscular coat, I have been able to detect only a few loops of vessels and no regular network. The veins proceeding from the vessels just described, join the plexus of small portal veins in the capsule, from which the inter-lobular portal veins arise.

The walls of the hepatic veins consist of the same elements as those of the artery, with the exception, that the muscular layers are considerably thinner, and the vasa vasorum not so abundant, the capsule also adheres more firmly to the fibrous coat than in the case of the hepatic artery and portal vein.

As the branches of the vessels become smaller and their walls thinner, the muscular element in those of the hepatic artery and veins is gradually lost. In the same manner, the capsule is disappearing by becoming ultimately blended with the walls of the finer branches.

The investigation of the structure of the finer branches of the blood-vessels is very tedious; the best manner of pursuing it, is as follows: A piece of liver is put under water, and a fine probe—about 1-150 of an inch thick—introduced into one of the finer branches of the vessel to be examined. This done, the branch containing it is carefully dissected with the assistance of a loupe—magnifying about 3 diameters—and then removed, together with a small portion of the parenchyma adhering. After the removal of the probe, the fragment—on a glass-slide and supplied with plenty of water—is placed on the dissecting stage, and the vessels freed from the surrounding parenchyma by a neat dissection with fine curved needles, under a loupe magnifying about 8 to 10 diameters and by transmitted light. During the dissection, the

water should be constantly changed, and the preparation be kept immersed. The vessel being dissected, as far as possible, under this low magnifying power, the preparation is now covered by a piece of thin glass, and ready for study with the higher powers of the compound microscope. To obtain satisfactory results, many such dissections must be made, and the investigator should be provided with plenty of patience and perseverance. The finer branches of the artery can readily be distinguished from those of the portal vein by their smaller diameter and the greater thickness of their walls; also by the presence of small oblong nuclei, which disappear in the finer branches of the portal vein. The walls of the finer branches of the hepatic veins are stronger than those of the portal vein. In such preparations, if carefully made, the transitions of the finest branches of the vessels into the capillaries can easily be studied.

The capillaries of the parenchyma have nothing peculiar in their structure, by which they might differ from those of other organs; their diameter ranges from 1-10,000 to 3-10,000 of an inch; the average is 1-4000 of an inch. They can conveniently be studied by taking a very small fragment of the parenchyma, placing it on a glass slide, and—being well covered with water—loosening the texture by means of fine needles, but without tearing it too much. This is done by transmitted light on the dissecting-stage, and under a loupe, magnifying from 8 to 10 diameters. Thus properly prepared and washed, it is covered by the thin glass and ready for examination with a higher power. Care must be taken that there is sufficient water on the slide to prevent the covering-glass from pressing too hard upon the preparation.

Commencement of the finest branches of the hepatic ducts and lymphatics in the network of "biliary tubules."

Independent of the capillary network which forms the connecting link between the finest branches of the portal vein, hepatic artery and hepatic veins, there exists another in the parenchyma of the liver, from which the finest branches of the hepatic ducts and lymphatics arise, to proceed toward the exterior of the organ. To distinguish the capillary vessels, by which this network is formed, from those which connect the

blood-vessels, I have called them in my former paper on this subject "biliary tubules." There is no apparent difference in the character of both sets of capillaries; if there be any, it is in their diameter, which, however, is a difficult matter to determine when the vessels are distended by artificial injection. In thin transparent sections of injected human liver, the diameter of the biliary tubules is sometimes as large as that of the capillaries of the blood, but in the average it appears to be rather less. Finding the capillaries in small prepared fragments of fresh liver varying in diameter, I am rather inclined in comparing them with those of injected specimens to consider the smaller ones as belonging to the biliary network.*

By the union of the smallest branches of the hepatic duct, originating in the network of biliary tubules, the lobular ducts are formed. These, by joining each other, form the interlobular ducts; which, in their turn, contribute to the formation of still larger ones. In this manner, the junction of ducts is repeated until, finally, the common hepatic duct is formed.

The walls of the hepatic ducts consist of three coats. The external coat in which the small arteries and veins ramify, consists of a loose areolar tissue. The middle one is composed of a similar tissue, with the exception of being denser, and containing some smooth muscular fibres; it also lodges some of the hepatic glands and a vascular network, similar to that in the external coat of the bloodvessels. The internal coat is a mucous membrane. The inner side of this membrane, especially in the main hepatic duct and its larger branches, is provided with a great number of small oval or round pouches, or "cul de sacs," as the French would term them. They vary in length from 1-30 to 1-140 of an

* In my article on the "Hepatic Lobule," published in the American Journal of Medical Sciences, Jan. 1859, I have stated the diameter of the "biliary tubules" to be 1-16500 of an inch. Although this statement was true according to the extent of my knowledge and judgment at that time, my subsequent researches have nevertheless shown me that I had been deceived by appearances. The elements which I took to be "biliary tubules," in my examinations of fragments of fresh uninjected liver, and which I represented in the drawing accordingly.—Figs. 10, 11, 12 and 13.—I suppose now to have been capillaries, put on the stretch by the needles during the dissection; or, as the specimens were taken from the liver of the hog, they might have been at least in Fig. 13.—Fibrils of fibrous tissue. In Figs. 1 and 2, drawings taken from injected specimens, the difference in the diameters of the "biliary tubules" and the capillaries of the blood may be attributed to the latter having been more perfectly filled with the injecting material than the former, though to some extent it is the fault of the engraver, for the difference in the original drawing is not as great as represented in the engraving. In Fig. 3, the "biliary tubules" alone are injected, and, in consequence, the diameter is correct,

inch, and are from 1-50 to 1-200 of an inch wide. Their lower margin is formed by a crescentic fold of mucous membrane, overlapping the sac to some extent. The largest of these pouches are subdivided into smaller compartments by secondary folds of the membrane in their interior; and it is into these subdivisions that the ducts of the hepatic glands empty. Judging from the position of the crescent-formed, almost valve like margin of the pouches, it seems that their office is: to arrest the bile—coming from the interior of the organ—until it has been mixed with the secretion of the hepatic glands. In the larger ducts, these pouches are numerous and irregularly distributed over the whole mucous membrane; but when the ducts have decreased in diameter to some extent, the pouches become arranged in two rows.

The epithelium, by which the larger ducts are lined, is columnar and 1-400 of an inch thick; its component cells can easily be observed in their different stages of developement; their color is greenish yellow, similar to that of the hepatic cells. Many of the fully developed cells of epithelium of the larger ducts have the peculiarity of possessing filamentous appendages of extraordinary length.

The developement of these cells seems, at first, chiefly to take place in two opposite directions by filamentous processes, the result of which is a bi-polar cell. The longer process of this cell, which points towards the surface of the epithelium—after having grown to its full length, expands laterally, when the cell has become mature. I have seen a number of fully grown cells, provided with those filamentous appendages above mentioned, whose total length exceeded considerably the whole thickness of the epithelium. In these cases, the appendage must have rested horizontally upon the basement membrane. The fully developed cells, without filamentous appendages, are 1-800 of an inch long, and 3-10000 of an inch wide. When the diameters of the ducts decrease to 1-150 of an inch, or smaller, the epithelium gradually commences to change from the columnar to the scaly form; and, with the farther decrease of the former, the flattened epithelial cells, also decrease in diameter until in the finer ones, the epithelium consists only of nuclei, closely set together. Its last

trace is only a granular layer, lining the short branches of the lobular ducts through which the transition into the network of "biliary tubules," takes place. The outlines of the epithelial cells and nuclei of the smaller hepatic ducts are dark and well defined, which forms a characteristic by which the latter may easily be distinguished from the blood-vessels.

The fibrous layer of the mucous membrane of the larger hepatic ducts lodges a network of capillaries with very small meshes, derived from the anastomoses of small blood-vessels in the middle coat.

Origin of the lymphatics.—The finest branches of the lymphatic vessels in the human liver, arise like those of the hepatic duct, from the network of biliary tubules.—Fig. 2, 5;—they then join each other to form a plexus of larger vessels which have already been described. In the capsule of the portal vessels, small branches proceed from this plexus, some of which join small hepatic ducts, and others, the plexus formed by the ducts of the hepatic glands. The extensive plexus of lymphatics in the "capsule of the hepatic veins" take their origin from the "biliary tubules," surrounding the intra-lobular hepatic veins; they also communicate freely with the ducts of the hepatic glands. In the capsule on the surface of the liver, the finer lymphatics, after having arisen from the "biliary tubules," anastomose with each other, and then join the network of large meshes already described.

The finest lymphatic vessels, present that nodose appearance so peculiar to this system of vessels, of the larger ones. The nodosities, of course, are caused by constrictions in the walls of the vessels; they correspond to the place where the valves, with which these vessels are provided, are situated. These valves, in the finer lymphatics, can easily be seen under the microscope.

The existing communication between the lymphatics and hepatic ducts will be farther discussed hereafter.

System of plexus, formed by the ducts of the hepatic glands.

The different localities in which this singular system of small glands with the plexus, formed by their ducts, is found in the human liver, have already been mentioned; it only remains to describe the peculiar character of its component elements, and

the relation of the latter to the ducts, lymphatics and blood-vessels. The small glands, attached to those ducts, which form the plexuses, vary considerably in size and form. Many of them join the plexus of ducts in the form of a simple follicle, while others—perhaps the majority—first combine with each other to form a small racimose gland, before joining the plexus—Fig. III. The diameter of the follicles ranges from 1-1000 to 6-1000 of an inch. Their duct or neck is very fine, usually 1-3000 of an inch in diameter, but sometimes it is almost as wide as the little gland itself; occasionally the latter has the mere form of a pouch or dilatation. Many of these follicles are sessile, especially the smaller; and, often, are only so large as to be lined by 5 or 6 epithelial cells. Sometimes the duct of the follicle assumes the form of a pedicle before joining the plexus; in such cases, the vessel of the plexus which they join, is usually very fine and the follicles are then set far apart. The small racimose glands, formed by the union of a number of follicles, also differ among themselves; especially in the size of their main duct, through which they are connected with the ducts of the plexus. Usually the size of this corresponds with the number of follicles of which the racimose gland is composed; but in many of them, the main duct is comparatively wide, and the follicles are almost sessile upon it, or join it by very short ducts.

The size and form of those vessels, or rather ducts, of which the plexus is composed, vary as much as those of the glands. The diameter of some is as large as 1-100 of an inch, while in others it is not larger than that of a capillary vessel. They seldom present a uniform diameter for any great length, but are constantly changing. It is not unusual that, while presenting a considerable dilatation in one place, they suddenly diminish in diameter to the size of a capillary vessel. In the walls of the large hepatic duct, before its division, and also in those of the cystic duct and the gall-bladder, the ducts of the "hepatic glands" do not anastomose with each other, but after having proceeded for a greater or lesser distance, and received the smaller ducts of single or of groups of glands, open into the pouches—"cul de sacs" of the mucous membrane, where their mouths can be easily observed. Here the glands are often collected together in

bunches, but as often they are seen to join the main duct—which here is mostly of a small diameter—in a single or double row, close up to the orifice in the hepatic duct.

In the capsule, covering the inferior surface of the liver, and between the larger branches of the hepatic duct before they enter the substance of the organ, and also in the “capsule of the portal vessels,” the plexuses, formed by the ducts of the hepatic glands, are very extensive; especially in the vicinity of the hepatic duct. I have even found portions of them deeply imbedded in the walls of the portal vein. They are not very numerous in the “capsule of the hepatic veins”; here their glands are mostly arranged in single file.

In front of the vena cava, where it passes the substance of the liver, and below the lowest hepatic veins, I have found another very extensive plexus, formed by the ducts of the “hepatic glands,” which anastomoses freely with the plexus of lymphatics. The extent of the whole was one inch in length and a half inch wide; the greater part of it was enclosed between two layers of areolar tissue, derived from the capsule of the liver. They were also freely supplied with blood vessels. These plexuses I have carefully traced to the larger lymphatics of that region. The communication between the lymphatics and the ducts of the “hepatic glands” may be studied with the greatest advantage in this situation, and also in the “capsule of the hepatic veins.” Very frequently, especially in the plexus near the vena cava, I have observed ducts of considerable size, about 1-100 of an inch diameter or less, possessing for some distance no glandular appendages, and others, of the same size, with very small sessile or follicular glands upon their walls.

The structure of the “hepatic glands” consists of an extremely thin layer of fibrous tissue, a basement membrane, 1-25000 of an inch thick—the well defined dark outlines of which can readily be seen through the former—and an epithelium of hexagonal cells containing a large round nucleus. These cells differ much in their size; some of them are not much larger than their nucleus. Free nuclei are also seen interspersed among them. The diameter of the largest cells is about 1-2000 of an inch, and that of their nucleus 1-4000 of an inch or smaller; the latter contains

mostly 2 or 3 nucleoli. The epithelium of the larger ducts of the plexus consists also of these cells, whose diameter, however, decreases in proportion to that of the duct which they line. In the finer ducts of this plexus, like in the finer hepatic ducts, the epithelium is *nucleated*, that is, composed only of nuclei.

The "hepatic glands" with their plexus of ducts, are surrounded by a network of capillary blood-vessels, derived from small arteries, branches of that arterial plexus within the capsule and terminating in venules going to their respective venous plexus of small vessels, contained in the meshes of the capsule, as previously described.—Fig. III. d. Each individual follicle or gland receives a capillary in the form of a loop.

Before closing the remarks on the subject of the "hepatic glands," I will refer once more to their connection with the hepatic ducts. When the latter become so small as not to be surrounded any more by the plexus formed by the ducts of the "hepatic glands," we find that their walls commence to be provided with single glands; that is, the glands, instead of first joining a plexus of large ducts, empty directly into the hepatic ducts.

To study thoroughly the various forms of the "hepatic glands" and their ducts and the relationship they sustain to the hepatic ducts and lymphatics, specimens, well injected with prussian blue, are indispensable. In such preparations the epithelial cells can still be observed. For the examination of the structure we have to resort to the uninjected specimens. The locality which I usually prefer for the latter purpose is on the inferior surface of the liver and between the larger branches of the hepatic duct; here the plexus is very extensive. In putting a fresh liver under water and carefully removing the peritoneum from that part, the glands are readily recognized by their yellowish pink color. They are then dissected out under a magnifying glass of low power and placed on a glass-slide. Being well covered with water, they are thoroughly freed from the surrounding fibrous tissue by means of fine curved needles; this is best accomplished on the dissecting stage under a magnifying power from 8 to 10 diameters, and by transmitted light. Having been thus properly prepared, their components may be studied very satisfactorily.

It frequently happens that while dissecting out these glands, a

small hepatic duct is cut, and small portions of its epithelium escape in the form of small round yellowish bodies. Precaution must be taken not to mistake these for the glands. The error may be detected by the difference existing between the epithelial cells those of the hepatic duct, being columnar.

ART. III.—*Speculum Holder or Retainer, an Apparatus for keeping in place Sims' Duck-Bill Speculum, without an assistant.* ✓
By EDMOND SOUCHON, M. D., Assistant to the chair of Anatomy, University of Louisiana, and Visiting Surgeon to the Charity Hospital, New Orleans.

The greatest objection to the general use of Sims' duck-bill speculum, in vaginal examinations, is the necessity of having an assistant, and also, a well-trained one.

The advantages of this speculum are obvious to all, and no one who has used it once or a few times will ever use any of the old instruments, except by force of circumstances.

To obviate the great objection above mentioned, numerous so-called "Self retaining" speculi have been invented by uterine surgeons.

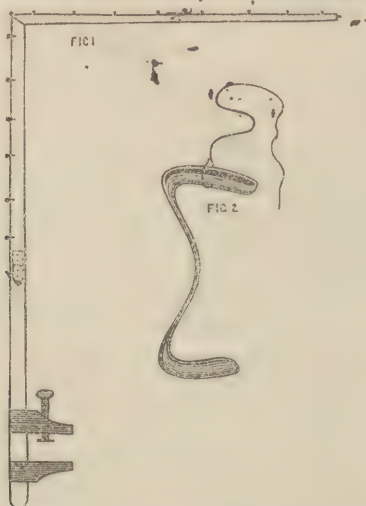
All these speculi, as their name indicates, take their hold from "points d'appuis" on the patient itself.

The instrument or apparatus, which I respectfully present to the professional public, distinguishes itself from all others in this, that it is altogether independent of the patient. Besides, it does not modify in any way Sims' speculum, which every body knows and knows how to use.

The original instrument is composed of a narrow vertical stem or upright about 18 inches long, bearing at its lower end two short jaw-like cross-pieces, the upper one provided with a thumb-screw; all so disposed as to be readily fastened to the edge of a table.

From its lower third, up, the stem is provided, on the left or antero-external aspect, with button-headed tacks about one inch and a half from each other.

To use the instrument, the patient being placed on the left semi-prone side position, the apparatus is screwed to the left edge of the table on a line with the vulva. The speculum is then introduced in the ordinary manner and the free beak is caught by a gum-elastic ring to which is tied a piece of strong fish-line (Fig. 2.)



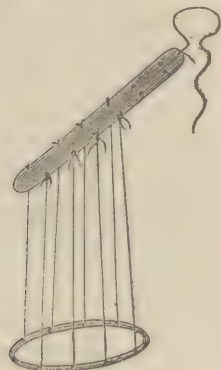
this is twisted around one or two of the button-headed tacks, and thus the speculum is efficiently held in position without an assistant.

If the speculum slips out it is that the apparatus is screwed above or below the plane of the vulva, or that the gum-elastic ring is too near the heel of the beak of the speculum.

It has been objected to this apparatus that if the patient makes any movement, the speculum comes out of place. But this objection is applicable to every speculum we have seen, and even to Sims' speculum held by an assistant. If the patient stretches her limbs or "draws in" and contracts the glutei muscles, we cannot conceive of any speculum that would remain in place and allow an examination. The patient will have to be replaced in proper position and the speculum reintroduced, before proceeding any further.

When I operate for vesico-vaginal fistula, in order to dispense with an assistant to hold the threads which precede the introduction of the silver wires, I add, to the vertical stem, an horizon-

tal arm, provided also with button-headed tacks, made fast by means of a movable peg, thus converting the apparatus into a sort of crane. The threads, as they are passed through the fistula, are all collected on Sims' notched-piece of wood, (Fig. 3) which, by



means of an elastic string twisted around one or two tacks, is held in place wherever the operator thinks proper.

Since the invention of this apparatus I have performed successfully, in presence of several physicians of this city, the operation for vesico-vaginal fistula, without assistants.

Such is the simplest form of the instrument, which is made of wood,—walnut or poplar. It may be made of steel, of brass, or of any other material.

To diminish the bulk of the instrument and render it more easy to carry, the vertical stem and the accessory arm might each be provided with a hinge in the middle of their length, thus permitting them to be bent in two. The best contrivance I found to insure the steadiness of the stem is to tighten the hinge with a screw instead of a riveted peg.

I humbly claim for this apparatus, first, its effectiveness: it holds the speculum in the position it is placed, without ever moving of itself, which is more than even the best trained assistant can do, for, in spite of his best intention, he will get tired and will have to change his position now and then. I shall also call special attention to the simplicity of the instrument which is such that any practitioner, even a country practitioner, can make one or have one made at very little cost. Prof. T. G. Richardson, of

the University of Louisiana, has applied this instrument, and I beg leave to copy the following remarks he makes on it, in the *Clinical Memoranda of University Clinic at Charity Hospital, Session of 1868-1869*.

"In performing this operation (a case of vesico-vaginal fistula) I was assisted by Dr. E. Souchon, who successfully applied his apparatus for keeping Sims' speculum in place. Another great advantage of this instrument, besides retaining the speculum, is that it furnishes a most ready means of suspending the sutures as they are successively introduced, thus preventing their tangling. By this means an assistant can be dispensed with, and even when one is present, which is always desirable, it is of very great service. Its simplicity and effectiveness commend it to all operators."

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ART. IV.—Splenic Fever.—*A paper read for discussion, before the Noxubee County Medical Society, Macon, Miss., June 5th, 1869:*
By OBADIAH HENDRICK, M. D.

THE novel character of the disease, our meagre knowledge of it, the barrenness of our scientific works upon the subject, the existing difference of opinion that prevails in relation to its pathology and treatment, the consciousness of the imperfections of our observing and reasoning faculties, connected with the fact that we are forced to rely almost exclusively upon our own personal observations to direct us in the fulfilment of the difficult task, conspire to make me feel sincerely distrustful of my ability to discharge appropriately the duties you have assigned to me on this occasion. It is not strange that there should be some divergence of opinion. That it is so, is perfectly natural. Providence has wisely ordained that we should all not view objects through the same mental medium or regard them from one stand point. This conflict of mind is the great propelling power to efficient advancement in scientific attainments; therefore we should felicitate ourselves that we are making steps in the proper direction to healthful professional progress.

As you proceed with the discussion much that is doubtless,

worthless and absolutely hurtful will be eliminated, while the little, if any, that is positively useful will be preserved and assimilated. This is the refining process through which all the fundamental and settled principles of science have to pass that are worthy of our esteem and confidence. The crude article which I submit to the test of your mental crucible to-day cannot escape the trying ordeal. Trusting, that if nothing sufficiently worthy in it is discovered to commend it to your regard, it may at least lead your scrutinizing and analyzing minds to the development of some important truths.

For the last three years intermittent and remittent fevers have prevailed extensively throughout this and adjoining counties of Alabama, and I believe more or less in all the Gulf and Southern Atlantic States. The primary attacks have generally been mild, yielding promptly to the ordinary treatment pursued in such cases, with an occasional one manifesting some degree of obstinacy. Relapses have been frequent, almost certain, so much so indeed, that when they did not occur, it was an exception to the general rule.

During the year 1868, new and grave symptoms were developed, manifested in an altered state of the blood with a tendency to hæmorrhage from some of the internal organs, especially the kidneys. This has been so uniformly observed by the profession that a new and distinct name seems to be demanded for it, and from the number suggested, the mind of the profession seems to be unsettled as to what it shall be called. Hæmaturic fever, Hæmaturia Intermittans, Cachemia, Purpuræmia, etc., names indicative of the most prominent symptoms, and all of which I conceive to be objectionable, as they ignore what appears to be the universal organic lesion.

In following the general rule observed by nosonomists, such names should be selected for diseases as have reference to their true pathology, suggesting to the mind the particular organ or part involved.

The first change of this character in this form of fever, is observed in the spleen, which organ, failing to perform its functions properly, the alteration of the blood takes place, and an anæmic, cachemic, and purpuric state of it is produced. Secondly, it be-

comes hypertrophied and indurated by frequent recurrences of chills and fever, in which condition, it can no longer serve as a diverticulum of the blood to prevent congestion of important contiguous organs. Hence the name splenic fever is proposed, which conveys to the mind a definite idea of the organ involved, and from which pathological condition proceeds the altered state of the blood, tendency to hæmorrhage, discoloration of the skin, and other grave symptoms. In its indurated state, the organ is thickened and becomes unyielding in its texture by the interstitial deposition of coagulable lymph. Consequently, with the loss of its spongioic texture, it does not invite the influx of blood, as it should in its healthy, soft and vascular state. The blood thus failing to get access into its usual place of retirement, is forced into other channels, and contiguous organs; the vessels of which become distended to such an extent, and, from their weak and frangible condition, burst, and hæmorrhage results. Its hypertrophied state, may, from its mechanical pressure, have some influence in throwing an unusually heavy current upon the kidneys, or the return of it interrupted in such a manner as to cause venous congestion. Now, it is not always the case that the hæmorrhage takes place from the kidneys, as it has been observed to occur from the bowels under similar circumstances. A plausible reason for this is, that the volume of blood failing, as in the other instance, to get entrance into the reservoir, is, from some cause, thrown upon the bowels, instead of the kidneys, with such force, as to cause their vessels to yield.

From the sympathy known to exist between the skin and the supra-renal capsules and symptoms that accompany disease of these organs, may it not be, that the discoloration of the skin is produced from their congestion, causing some functional disturbance. The discoloration appears simultaneously with the hæmaturia, or quickly follows it, and disappears soon after the kidneys resume their healthy functions. Some regard it as jaundice, but the alvine evacuations show, that the bile is not interrupted in its passage through the natural channel. The bright yellow hue of the skin, its rapid subsidence after the kidneys have begun to secrete healthy urine, taken in connection with the fact, that the bile is still poured out into the bowel,

forces us to the conclusion, that we must look to some other source for the cause of this symptom. It is most likely the result of change or introduction of some foreign element into the blood.

The theory here suggested, in relation to this form of fever, does not conflict with what physiologists regard as the functions of the spleen, viz., a blood-making organ, a reservoir for the blood, and protector of the abdominal viscera, when a large amount is suddenly thrown upon them from the extremities and skin by the centric determination produced by a chill. It is confirmatory of the assumed theory of its functions, which is still regarded by physiologists as conjectural.

Thus, we have endeavored to account for the prominent symptoms of this disease, upon a plausible, if not rational theory, according with the general received opinion of physiologists in regard to the function of the organ involved. It is true, that the minds of physiologists are not settled on this point; and we are forced to the alternative of making the best use of the knowledge we possess, until, from further experimental research and investigation we arrive at the truth.

In the treatment of this disease, our attention is first directed to the pain in the lumbar region and the hæmorrhage, usually the most urgent symptoms demanding relief. If the bleeding has not progressed to the extent to threaten prostration, dry cups are applied freely to the lumbar and sacral regions, followed by a sinapism sufficiently large to cover those regions and the hypogastric. Astringent diuretics are indicated, such as uva ursi, or buchu, in combination with alkalies and nitric æther. Scapnia, or some of the preparations of opium, are resorted to for the purpose of relieving the pain and restraining the hæmorrhage. From six to eight grains of quinine should be given, for two days in succession, night and morning, either by the mouth or by injection, with the view of equalizing the circulation, and preventing a recurrence of the paroxysms. The nausea and vomiting, are exceedingly troublesome in a majority of cases, precluding us from any medication through that organ. In such cases, ice, alkalies, lime water and milk, creosote, oxalate of cerium, and svapnia, may be advantageously given. A blister drawn over the

epigastric region, exerts a favorable influence. When the patient is being rapidly exhausted, more energetic and efficient remedies for arresting the bleeding are demanded, and stimulants, acetate of lead, and opium are called into requisition. The *tinc. ferri. mur.* is an excellent hæmostatic, and acts well in improving the impoverished condition of the blood. With purgatives, we have but little experience, believing them to be contraindicated, especially the mercurials in purgative or alterative doses. If the bowels do not act spontaneously, an enema should be given once every two or three days. With the view of replenishing the blood as rapidly as possible, nutritious diet is allowed, consisting of substances that are rich in elementary substances, fluid, and easily assimilated. Such as wine, whey, egg-nog, milk-punch, essence of beef, and chicken. When the stomach will not retain it, it should be given by injection, in combination with some anodyne to prevent its ejection from the bowel.

During the convalescence, bitter tonics and the ferugineous preparations are required, in conjunction with diuretics. Among the latter, acetate potassa or gin, act well, and are peculiarly adapted to children. When repeated attacks of chills and fever threaten to culminate in splenic fever, the antidotal and tonic properties of quinine and iron, in conjunction with the eliminating effects of diuretics, should be sought for and persevered in for a considerable time, to prevent the occurrence of such an unfortunate result. The average rate of mortality, as far as my observation extends, is ten per cent, including in the estimate every form of disease, from the mildest to the gravest.

The general impression prevails, that the black population is exempt from its attacks. It is true, that they do not seem to be so susceptible as the white, as but few cases have been observed among the negroes. A case of it occurred in the person of a negro man on the plantation of Dr. I. F. McLeod, in this county, which proved fatal.

Relapses of chills and fever have occurred in one-fifth of the cases that have come under my observation, in from one to six months, all following mild attacks.

ART. V.—*A Case of Blind Vaginal Fistula* ; By EDMOND SOUCHON, M. D., Assistant to the Professor of Anatomy, University of Louisiana, and Visiting Surgeon to the Charity Hospital, New Orleans.

CASES of inflammation of cellular tissue of the pelvis around the uterus are by no means uncommon and instances of cellulitis developed between the vagina and rectum are on record. But we could find no case in which the inflammation had developed itself in the loose cellular tissue between the bladder and the anterior wall of the vagina terminating in an abscess which opened into the vagina, the opening remaining permanent and thus constituting what may be termed a "Blind-Vesico Vaginal Fistula."

Such was the case with a patient from the practice of Dr. Just Touatre, of this city. The patient, a Sicilian, aged 22 years, is of fine general constitution. After excesses of coitus she was taken with pains which lasted several days and ended, or at least, were much soothed, with the discharge of a moderate amount of pus. From that moment she has always been troubled with the discharge of pus, occasionally mixed with blood. She had been submitted to repeated cauterisations for several months; but deriving no benefit from that treatment, she applied to Dr. Touatre for relief. This gentleman, recognizing at once the true nature of the affection, said that nothing short of an operation would cure her, and I was called upon by Dr. Touatre to carry through whatever surgical measure we would think best. Upon examining the parts we found at about an inch within the vulva, an opening of a half of an inch in diameter leading into a cavity of about the size of a hen's egg, which was lined with a pus-secreting membrane. To pare the edges of the opening and unite them with silver sutures would certainly have been of no permanent good to the patient because the pus secreted by the cavity would soon have filled the pouch and would have burst it again or have compelled us to make an opening to let it free. We therefore concluded to lay the cavity widely open and expose the bottom, by excising the vaginal wall of the cavity. This was done accordingly with the scissors and forceps.

Though it became necessary, a short time afterwards, to excise

another small portion of the walls, the patient recovered entirely, a few weeks after the operation.

The only fear we have is, that the vaginal wall being weaker there, the patient may have ultimately a cystocele.

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ART. VI.—*Excision of the entire Scapula with preservation of a useful Arm* : By M. SCHUPPERT, M. D., New Orleans.

THERESA BASTIAN, thirty-six years old, born in Michelbach, Baden, a stout woman, with dark eyes and hair and a fair complexion, unmarried, came to this city in the earlier part of 1868.

She suffered from a large tumor, comprising the right scapula, for which she had already undergone three operations. The first time she was operated upon in 1859 by Dr. Beck, a military surgeon in Freiburg; the second and third time in 1866 and 1867 by Drs. Miller and Gauss in Baden-Baden, but by these operations the scapula had remained intact.

The skin covering the tumor was rich in cicatrices, the marks of former operations. These cicatrices presented a bluish color and a smooth surface; were much thinner than the surrounding skin and like the rest of the integuments moveable over the tumor. The tumor from its posterior margin to the acromion process measured 0,18 metre, the largest extent in a vertical line being 0,21 metres. Active motions of the humerus were nearly arrested, the passive motions very much limited. The extremity could not be further removed from the body than to an angle of 45 degrees. The extensive pain patient suffered in the arm brought her to me in search of relief. Having given her consent to a proposed removal of the entire bone, the operation was accordingly performed on the 30th of March 1868 in presence of Drs. Barnes, Gray, Geutebruck, Riley, Schwarzwaelder, and some other medical gentlemen. Patient being in a deep chloroform narcosis, a crucial incision was made through the skin; one cut, beginning at the acromion process and carried over the most protuberant part of the tumor, ended near the spinal column; a second incision over the middle of the tumor bisected the first. The four skin flaps were dissected off

and held back by sharp hooks. The acromion process was divided with a small saw, laying bare at the same time the scapulo-humeral articulation. The head of the humerus was then by rotating the arm dislocated inwards, to get at and remove the coracoid process. Lifting up the scapula by its glenoidal cavity, which was found to be involved in the disease, the whole of the scapula was detached from the body by keeping the knife close to the under-surface of the tumor. The removal of the tumor left the ribs visible through the cellular tissue, which was all that remained of the sub-scapularis muscle, lost in the diseased mass.

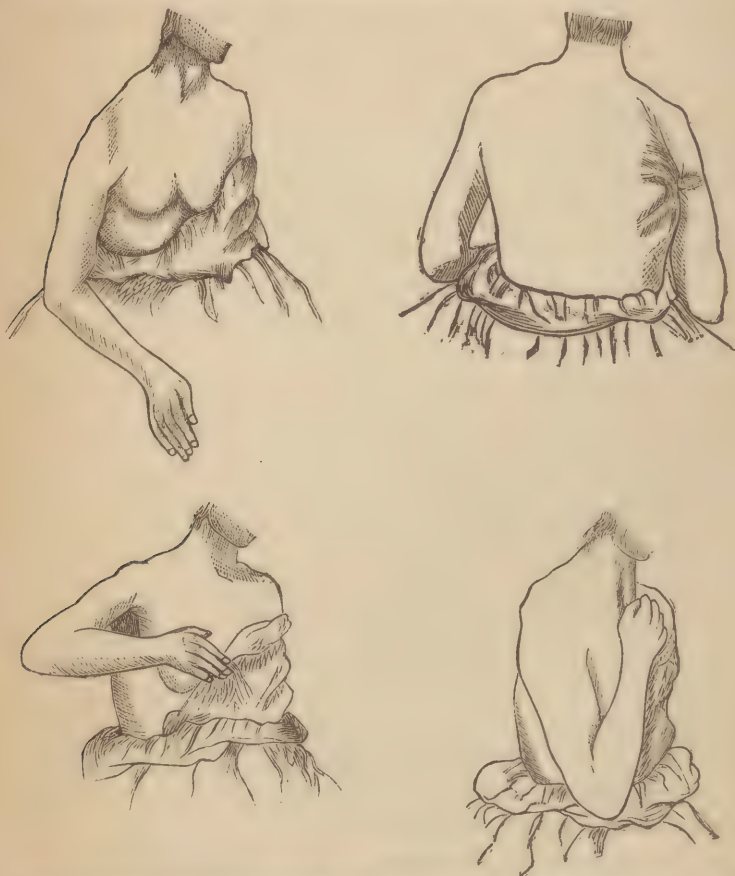
The bleeding was inconsiderable; the main vessels having probably become obliterated by the former operations; with the exception of a few muscular branches no arteries had to be ligated. The skin flaps were adjusted and united by interrupted pin sutures, leaving an opening at the most dependant part to permit the draining of the secretion. Acetate of morphia, 0,03 gramme, was subcutaneously injected. After patient had perfectly recovered from the anæsthetic condition she was unconscious that the operation had been performed. The arm was bandaged and kept close to the body supported by a sling.

Patient suffered much nausea subsequently and vomited during several days from the effects of chloroform. No unfavorable symptoms happened to require medication. A nourishing diet was ordered from the first day and continued during the convalescent state.

The sutures were removed on the third day. Most of the incisions had healed by first intention. Suppuration was considerable and notwithstanding the well draining of the wound two abscesses formed in the arm discharging a great quantity of pus. The wound was syringed out daily with glycerine containing ten per cent. carbolic acid. On the 10th of June, the last secreting opening had closed.

At the present date, eighteen months after the operation, there is no indication of reappearance of the disease in any part of the body. The skin of which no part had been removed, though after the excision of the tumor it formed a large sac, has so contracted that a part of the cicatrix forms now a portion of the covering of the humerus, as will appear in one of the plates

Theresa, who enjoys excellent health, has thrown away the sling long ago, the arm has no artificial support and is a more useful instrument than before the operation. Though its motions are limited, there is sufficient strength in the extremity to lift a weight of thirty pounds and throw it a fair distance. The plates taken from photographs, show the different positions, the arm can be made to assume by the will.



The tumor weighed nearly six pounds and measured respectively 0,35 and 0,40 metre in circumference. From the original scapula but one third of the spina, a small portion of the coracoid process and the centre of the glenoidal cavity remained intact, all the rest was involved in the growth. The tumor consisted of hyaline

and fibrocartilage with deposits of carbonate of lime in the inter spaces of the cartilaginous tissue. Towards the centre true ossification had taken place. We have to consider it therefore to be an Osteochondroma.

Those interested in the history of this operation, I refer to a valuable contribution of Dr. Stephen Rogers, of New York, in the the American Journal of Medical Sciences, October number 1868, in the concluding remarks of which he says:

“It may be summarily stated that the ex section of the entire scapula, with preservation of the arm, is an operation of very modern date, first performed, so far as the records have informed us in 1855.

The following abstract from our main table, will exhibit an outline of the *nine, and only cases*, known to the history of surgery.

Langenbeck in 1855, removed the entire scapula and three inches of the clavicle, (*a boy twelve years old, disease: osteo-cancer of the encephaloid variety. The boy died of a return of the disease.*)

Syme in 1856, removed the entire scapula and no more, (*a female seventy years old: sanguineous cyst of the bone, died two months after the operation of “old age.”*)

Heyfelder in 1857, removed the scapula; at the same operation, the head of the humerus was also removed, (*an adult, caries, died on the eighth day after operation of pyæmia.*)

Jones, in 1858, removed the entire scapula and about an inch from the outer end of the clavicle, (*caries in a girl fifteen years old, recovered promptly and permanently with a useful arm.*)

Hammer, in 1869, removed the entire scapula and about three-fourths of an inch from the clavicle at its acromial end, (*osteo-cancer in a girl eighteen years old, died of a return of the disease, ten months after the operation.*)

Syme, in 1860, removed the entire scapula and outer end of the clavicle, the head of the humerus having been removed at a previous operation, (*osteo-cancer in a man forty three years old, recovered and had a useful arm and was enjoying good health some years after the operation.*)

Schuh, in 1860, removed the entire scapula and no more, (*child eight years old, osteo-cancer, recovered from the operation but there is no subsequent history.*)

Michaux, in 1864, removed the whole scapula and no more. (*encephaloma*, disease returned and patient died ten months after the operation.)

Rogers, in 1867, removed the whole scapula and no more (a girl seven years old, *osteo-cancer* of the *encephaloid* variety, died of a return of the disease six months after the operation.)

The legitimate surgical character of the operation is no longer a subject of doubt, and we are not now liable to the criticism which was so severely bestowed upon Mr. Syme in 1856, for having practised an operation, which, at best, must leave a worse than useless arm, as was alleged. On the contrary, it is practised and defended and urged with enthusiasm by the highest surgical authority, as the *ne plus ultra* of conservative surgery.

ART. VI.—*Influence of the Mother's Mind on the Embryo in utero :*


By T. J. WILLIAMSON, M. D., Cincinnati, O.

THERE is no condition in life where the placidity and tranquility of the mind is so imperatively called for as during the term of gestation. Clouds of unhappiness may darken for a moment the mental sky of the coming mother, but the sunlight of reason will dispel them as the vapor of a May day morn before the brilliant rays of the rising sun. The powers of the mind should be kept in active exercise all the time to inspire the heart to cheerfulness. Whatever of care, pains, self-examination and watchfulness this may cost the mother, the harvest is sure and the reward indescribably large. Thus in the space of nine short months she bequeaths to her child a richer inheritance than could the mines of Ophir or California, and it is as plain as was the "handwriting on the wall," that a violation of these laws may entail misery upon her offspring for life. This calls to mind a case in point, near my native home. Mrs. B., of Virginia, an excellent lady of fine cultivation, the wife of an irascible tradesman, becoming enciente, so enraged the husband that during her entire term of pregnancy he treated her with great brutality, and forced her to take emmenagogues with the view to destroy the embryo, but all to no avail, and in due season she give birth

to a fine male child. When the boy was old enough to distinguish one person from another he became afraid of his father, and nothing could appease his fear, and as he grew older his fear turned to hatred. The once brutal husband was now a devoted father, and loved his promising son with great affection, but was at last compelled to send him from home to school, from which he never returned during the lifetime of his father. For fifteen long years they never saw each other. About three years ago the unhappy father found that relief in the grave for which his troubled spirit yearned; while the son, a noble young man, stands high as a jurist in his native State. He deplored his unnatural feeling, and often declared with tears, that he could not tell why it was so. The growing and burning affection of the mother may stamp the image of the idol of her heart upon the embryo in utero. Mr. W., my uncle, once employed as teacher in his family a Miss H., a young lady whose powers of mind, virtues of heart, and charms of person could not be excelled, except that her right leg was some three or four inches shorter than the left. She had a lustrous brown and a laughing blue eye. Mrs. W., who is one of the kindest and most affectionate of women, formed an attachment for Miss H. which was perhaps a little less holy than that which existed between Damon and Pythias. Recoming enciente, she give birth to a female child, whose right leg, like Miss H.'s, is three or four inches shorter than the left, and a brown, and blue eye. The girl is now grown, and could hardly be distinguished from Miss H. were they both of same age.

The mother's mind, through sympathy, pleasure, or hatred, bears with such power upon the nerves of sensibility as to entirely transform the perfect human form of the fœtus into that of an animal of the lower order, and instead of a perfect child being born to glad the anxious mother's heart, she becomes the wretched parent of a human monster. In the language of the celebrated Dr. Bedford, "If you ask me to explain why, my answer is, I cannot, except as a matter of observation, but there are many things which I firmly believe, and yet cannot comprehend except on the principle of faith. Man's belief would be sadly curtailed if he rejected everything for which he could not

give a satisfactory explanation." These facts, so potent, should not be overlooked by the mother, as the observance of them is a duty which she owes alike to herself, as well as the well-being of her posterity.



ART. VII.—*Physiology and Chemistry of Old Age*: By S. P. CUTLER, M. D., Holly Springs, Miss. Read before the American Medical Association, New Orleans. Referred back to author for publication.

THAT slow but sure and gradual process that sweeps and undermines all animated nature, may be regarded as a normal or physiological, not pathological or diseased action in a strict sense.

There is probably a probationary stage in man and animal, or a period of greater or lesser duration in different individuals, when decay and reproduction exactly balance each other, which marks a given period in each individuality, before which time the reproductive, after which decay predominates.

It is right here a question, whether the rapidity of development or growth in anywise governs the process of future decay, or is in any way coincident with physiological decline? We have good reason to believe that after the close of this stationary stage, that the organism gradually becomes mineralized, or, as it were, fossilized, by the cells becoming clogged with unoxidisable matter; in consequence, lowering cell activity and lessening vital heat and force or energy, and in proportion the *vis vitæ*.

There is a gradual filling up of cells with life antagonistics, gradually crowding life out of the least vital first, then the more vital, until ultimately, by this stealthy encroachment, life is driven out by displacement. The above statements may be strikingly illustrated by the fact that the meat of old animals is less nutritious, unless made suddenly fat from a lean condition. The meat of all young animals is more juicy than that of old. Young and tender, old and tough, is a very old adage.

Why will not a given amount of carbon and hydrogen as ternary food taken into the organism of old age produce the

same amount of physical force or energy as in youth or middle age, digestion being equal in both cases? If the same amount of food be equally digested in both cases, then absorbed into the circulation and carried into the tissues and cells, and then oxidized in the same time, the same amount of physical force would be developed in each case.

We may admit that the same amount of carbon and hydrogen is taken in a give time in each and digested, still, this does not prove the fact that this food is oxidized in the same ratio after entering the tissues in both cases; admitting that the same amount of oxygen enters the organism in both cases, does not prove the fact that this oxygen is all consumed in both cases equally, as a portion may pass out in the one case un-oxidized, in the other, not in the form of debris, as also might a certain portion of the food pass out after undergoing normal digestion, as debris.

The food entering the tissues is not proof that it all entered the cells where the greatest amount of oxidation takes place. If then, a portion of the ingested food enters the portals of the tissues without entering into the sanctum sanctorum or inner chambers of the tissues, it may pass out again unchanged by the reversal of the forces that carried it in, that is, by a change of its polarity and becoming dead, instead of living matter, so far as its relations to the organism at the time is concerned. It might be asked why the same amount of ingested food is not permitted to enter the cells in both cases?

The only answer I can give at present, is that the cells themselves are already partially filled with unoxidizable materials or mineralized matter; thereby mechanically excluding a portion of the nutritive elements. Under such circumstances, this additional quantity of food, more than can be consumed, must act as a clog, obstruct and weaken the animal forces; as a certain amount of force is required to carry in and out this useless load which can be of no service whatever; on the contrary, an injury, having a tendency to produce plethora, gout, and other diseases.

It might be asked, why the cells become clogged with mineralized matter as age advances? Could we give the answer, the mystery of old age, if not life itself, would be solved.

It is extremely difficult to find access to cell structures so as to

recognize changes taking place during life, even if such a thing were possible, their size being so small, it would be perhaps an impossibility to distinguish any actual difference in the character of cell contents. This could be determined by chemical analysis.

There are certain tissues that may be made the basis of comparison at different stages of life, that may serve to throw much light on this recondite subject. I allude to the hard tissues or bones; the most accessible being the dental structures, as they can be readily procured, even from the living subject, at all ages.

We find these organs when first ruptured, with a larger hollow or canal, having a greater per cent. of cartilage or dentine, than in middle life, and more in middle than in old age. Whether there is actually a probationary or stand-still stage in these and other hard structures, is not yet settled; the probability is, that there is a slow, but constant change steadily going on.

There certainly must be a period or culminating stage when the fullest perfection and most favorable balance of destructive and reproductive elements is attained. This particular period might possibly be ascertained or approximated, and when these organs have remained healthy, might furnish an index to all other tissues of the body. After this period has been reached by these organs, there commences, and steadily progresses, a change in the anatomical constituents, which progresses *pari-passu*; no doubt with similar changes throughout the entire organism, until as before stated, life is entirely crowded out.

Death by old age, that slow but stealthy and certain process of crowding out of life from the organism, by filling up the cells with non vital, mineral elements, thereby not allowing room, if I may so express it, for life to continue its ceaseless roll. If this hypothesis be correct, we are gradually driven out of our earthly tabernacle by an enemy that never raises his siege. Some may, and do, hold out longer than others, though it is only question of time. It may be inferred that nature or the organism gradually succumbs to antagonistic forces, acting both from within and without. When organic, or what are called chemico-vital forces, first counteract each other, physiology is sustained intact, and any deviation from these counterpoises converts physiology into pathology.

These counterbalances may be inferred to be decay and reproduction, oxidation and waste on the one hand and nutrition or reproduction on the other. Oxidation in the cells makes room for nutrition, otherwise no such thing could take place. Hypo and hyper nutrition and other causes may influence these conditions to a certain extent.

Why this condition from the highest endowments of organic life should be gradually undermined and destroyed by antagonistic forces so as to entirely break up the organization, has not yet been discovered or revealed any farther than the supposition that each architypal, primordial cell may have received its impress of limitation from the Creator subject to limited modifications from certain modifying circumstances.

The greater the amount of normal oxidation taking place in the organism, the greater the amount of vital force of such organism. Energy of nutrition just neutralizing such oxidation, the resultant being *a tertium quid*, called life force or energy. It is in other words, the oxidising and breaking up of organic elements of the organism, and the conversion of it into organic elements that developes life force—life being motion, and oxidation being the cause of such motion, the bent spring, the falling weight, the dynamical battery. To return to the hard tissues. The teeth, like bones, continue to ossify inwards from childhood to old age, until in extreme cases all life ceases and the tooth becomes dead from occlusion of pulp canal and tubuli, with great preponderance, of earthly salts over animal elements, and becomes friable and brittle. All other bones may be supposed to be in a similar condition, more ossified, less vital, more brittle and friable, the consequence would be a cooling of these tissues to such an extent as to seriously chill the sarcode and fluids, and ultimately causing death, from cooling down below a certain life-sustaining point.

As the organs cool, vital energy ebbs *pari passu*, unless sustained by artificial stimulants, such as alcohol and certain others, a portion of which passes the rounds of the circulation unchanged and by its direct agency on the blood and vessels, additional vigor is imparted so long as under its influence. Some of the alcohol may be burned as combustible-food, also favoring oxidation in the cells generally, so long as under its influence.

Life itself could not be prolonged to any considerable extent by any such artificial means, but their proper use would be of service, in fact, would be essential in old age, as exciters of vital forces.

As the food of old persons varies but little from that of youth, there must be an excess of unappropriated lime salts retained in the organism an indefinite time—which, the osseous system failing to appropriate, seems to clog the system by finding its way into the cells, more especially cartilage and all similar tissue cells first, but subsequently into more vital structures, shutting out oxidation or all activity as well as mechanically obstructing life, energy, or force.

After a given amount of arrestation of cell activity, life itself sinks below the life-sustaining point by both cooling and mechanically obstructing as in cases of calcification of the valves of the heart and other important structures.

The question here arises, is there any known or unknown means of arresting this mineralization of tissues, especially in the bones of advancing age, as other tissues *a priori* calcify only after the hard tissues fail to make farther use of the lime salts taken with food in the form of normal nutrition.

Other tissues harden in a given ratio, which may vary in different individuals, and in the same individual under different circumstances.

Can there be any means devised that will retard this mineralizing process in any way; possibly there can. It is evident that if lime-water is used for drink and food, known to contain a large per cent. of this salt, that there are at least more favorable opportunities afforded favoring this process. I might here make two suggestions: First, to use food and water known to be the most free from phosphates. Secondly, To make use of food containing a large per cent. of vegetable acids, such as fruits, also vegetables in their green or fresh state, and vinegar largely, during meals. Eggs and milk are known to contain all the minerals in excess of almost all other kinds of food; butter may be used freely, also fat meats, both forming combustible food chiefly. Sugar, lemons, oranges, apples, cherries, plums, peaches, currants, and

many other fruits and berries, are good. The rinds or peelings of fruit should always be discarded in advancing age, as they contain the chief minerals. In young subjects this order should be reversed, as they need an excess of minerals up to the time of full development and growth.

All acids containing hydrogen, as most vegetables do, decompose phosphates and carbonates, forming soluble salts, which could not be deposited permanently in the cells, either of bones or other tissues.

Any free lime salts floating in the system, or even in the cells, may be decomposed and more salts formed and washed out of the organism. Not only this, but even the bones themselves may be made to give up any surplus portion of lime in this way in old age, so as to render them less dense and friable, and more susceptible of nutrition, and old age even put farther off indefinitely.

The object of vegetable acids, as diet, would be to establish an acid diathesis, similar to the disease called rickets in children, which depends on such a diathesis that removes lime from the bones, and in some cases, in very young children, prevents even the deposit of lime in certain bones and portions of bones. Melitis osseum in adults, especially females, after puberty, and pregnant women, necessarily depends on a morbid acid diathesis, unlike the former disease. I do not propose to carry the acid to such an extent as to develop a diseased condition of the bones or any part of the organism, only to use sufficient to prevent a too rapid accumulation of lime in the system. Normal waste of bones can take place from no other cause, save that of acid action, dissolving out the lime salts, while oxygen alone removes the gelatine or cartilage, similar to any other soft or fleshy tissue. Any vegetable acid containing hydrogen, as above stated, will decompose both phosphate and carbonate of lime, either in or out of the organism, if sufficiently concentrated.

I do not propose medication as a prophylactic or preventive of old age, but only suggest proper dietetic regulations, in order to prevent premature old age. This much I believe to be possible.

Bone decay or waste depends on a double or dual process, namely, that of acid removing lime, and oxygen removing the osteine, similar to any tissue which gives place to nutrition, which

can follow after waste only. In this respect bone nutrition is unlike any other. The exhalation of all other tissues is the work of oxygen only. Decay and reproduction, old tissues disintegrated and new protoplasm added is the order of life, death and regeneration; die that we may live. Without death, there can be no life, so said Bichat, who first propounded this great fundamental truth.

All decay is chemical action, acting both in harmony and in opposition to vital action, and both essential to vital existence; both acting in concerted antagonisms. All chemical action depends on molecular physics, and all life manifestations are based on molecular polarity or dynamics similar to that of chemical. Again, the food of children should contain an excess of lime salts, also that of pregnant females. The food of advancing age should contain the smallest possible amount of lime salt, and the largest amount of vegetable acids. Females who have borne the most children, are frequently the longest lived, gestation imparting additional vital energy for the time being, by setting up new energies in her system; at the same time, drawing heavily on the lime salts of the food for the new growth or development of osseous structures. At the same time, there is generally set up in the enciente female, an acid diathesis, which acts heavily on the bones, this is made apparent by dental decay during this period. The above facts go to sustain my hypothesis or theory.

Excess of food or overeating, even of the proper kind, is injurious in advancing age; serving to over-distend the cells, causing undue deposits of minerals, which clog the system and check vital energy, and to a greater extent and more permanently in the bones than in the sarcode.

All the tissues in old age become less oxidizable and less vital, even the fat in the cells, owing to loss of water and excess of carbon. Gray hairs show and wrinkled skin indicate less of vital energy; in fact the whole system becomes yellow and less fair in advancing age.

In short, the system becomes mineralized and carbonized and mummyfied. The bone cells first become clogged and cooled, causing a heavy dragging sensation as if the bones were becoming

heavy and cold. This is actually the case, the earth in the bones increases, consequently, they become less vital and nutritious. *Fragilia Osseum Senilis* the result.

How to remedy the loss of water in the soft tissues and excess of carbon, is not so easily determined. One fact is observable, as people grow old they drink less water, also sleep less, the tissues become dryer and less juicy. A very old truism, young and tender, old and tough.

The most of old animals are tougher, dryer and less nutritious, unless the they are rapidly fattened from the lean state, as before stated.

Carbonaceous matters and minerals predominate in old persons. The predominance of carbon may depend on evaporation of water or its elements in advanced age.

Wood of any kind, when kept dry, loses elements of water, and continues to do so for centuries, turns yellow and becomes brittle. The same may be said of all organic substances, either in the living or dead state. These are significant facts.

Mineralizing of cell contents and carbonizing of cell walls or structures, seems to be the only constitutional causes of decay, and old age. Some may die of old age, ten, twenty or more years sooner than others. Some may live to be one hundred and fifty or more years, and even then not die of old age.

As I have already stated in a published article on physiology, all heat and vital force depends exclusively on oxidation, but the probable mode of such oxidation and per cent. of different oxidizable elements of the various proximate and elementary principles, do not at present concern us.

All life forces may be regarded as the sum or aggregate of all the forces of the different elements that enter into organisms as pre-existent, only acting in new directions and under different circumstances, the new endowments being the result of new combinations not found to exist outside of organic life. In new endowments of matter only, are new directions of forces exalted or lifted up.

Finally, who shall say, what is really the outside limits of life under different circumstances? Who shall gainsay that man's

organism may not be so retained in its youthful condition as to furnish boys and girls at one hundred years, by scientific classification of food for the human family?

From recent researches of Darwin, Spencer and others, what may we not hope for, if the human family can but receive a share of the scientific labors of such men in relation to longevity as set forth in the above article?

Removal to warmer climates in advancing age, where more light and heat are absorbed, may add to the years, other things being equal. In a recent article on food by Leibeg, no distinction is made, nor is any reference made to the opinions of many of the eminent authors in relation to longevity.

✓ ART. VIII.—*On the Treatment of Herpes Zona*: By JNO. M. GIFFEN, A. M., Jacobsburgh, Ohio.

INASMUCH as dermatologists usually recommend anti-phlogistics in the treatment of the above disease, and since they still parade quite an assortment of remedies of more than doubtful efficacy, I take pleasure in submitting to the profession the details of a case illustrative of the results of an entirely opposite course of medication. I will also remark *en passant* that it is one of six consecutive cases recently occurring in my practice.

Miss M—D—, age seventeen, menstruated at fourteen, is rather anæmic, catamenia suppressed, has a vesicular eruption confined to right half of thorax; first patch fell on right mamma, and last close to spine, needs a patch a few inches below axilla to complete the demi zone. In this last situation, there is a sharp pain. I predicted a patch for the next day, which promptly appeared. In addition to the eruption, there are sharp, darting neuralgic pains shooting through her chest in direction of patches. She is obliged to occupy the recumbent position for the first day of the eruption, on account of a feeling of faintness. Treatment. Collodion applied to vesicles, two or three coatings at a time, once in twenty-four hours, for four days. Experimented with the collodion, and where applied, the pain subsided in a few hours, but no where else did it do this so quickly. Internally. 1st day,

quinine sulph., one grain, opium, one-fourth grain, every four hours. Afterward, quinine and carbonate of iron thrice daily, for four days longer. At the end of five days from the commencement of treatment, patient was so well that further medication, locally or constitutionally, was abandoned, excepting to give iron for the menstrual disorder.

Of the six cases of which I have preserved a record, two were males, and four females; in two it was the left half of the body, in four, the right. In one case only, the eruption occupied the lumbar region, in all the others, the thoracic. Now, I wish to call attention to the following statements:

1st. All were well marked cases of herpes zoster, *vulgo* shingles.

2d. In none did anti-phlogistics appear indicated, but whatever pyrexia existed, was plainly associated with more or less asthenia.

3d. The treatment was essentially the same in all, and with a uniformly happy result.

4th. In all, five days were adequate to the cure, excepting a little girl of ten years, in whom the disorder had proved intractable in the hands of another practitioner. In this case ulceration, which got well very fast under emollient applications and iron and quinine.

5th. Tonics and hæmatics evidently fulfilled every indication.

6th. In none did I permit the rupture of the vesicles, in fact the collodion would not allow it.

7th. A *mechanical* astringent, reducing the hyperæmia of the cutaneous surface; forbidding the maturation of the vesicles, favoring the absorption of their contents, proved to be most eminently *anodyne* and curative.

8th. In all the cases coming under my observation, there did seem, in view of the circumstances attending their history, to be some disorder in the important function of hæmatosis. As to what is the initial process in every such instance, remains for the pathologists to determine. In the cases in question, dyspeptic symptoms coupled with impoverished blood, were, we think, the predisposing causes.

CORRESPONDENCE.

GREENSBORO, ALA., 22d Oct., 1869.

DR. MITCHELL.

I have never seen the following combination of medicines in any book, and the apothecaries in this place call it "*Osborn's Neuralgic Pill*:"

R Zinci Cyanuretum.....grs. vj.
 Quinia Sulphas.....grs. jx.
 Morphia Sulphas.....grs. jss.
 Ext. Belladonna.....grs. iij.

Mix in six pill. Sig. One pill every six hours, until the pain is relieved.

It is rare that more than three are necessary for the cure of a case, and I am disposed to believe that, if my inclination had been so directed, I could, by a "monopoly of patent right," be now rivaling Helmbold in notoriety and wealth. As it is, you may give it to the profession, through your Journal, and I will feel amply compensated in the consciousness that it will be as effectual in the hands of others, as it has ever been in my own. If objectionable, the morphia may be omitted.

Fracture of the Femur.—Having to treat recently two cases of fracture in the upper third of the femur, in boys near the same age, and being troubled with the first on account of ulceration of the heel, I changed my method of extension in the second case, with satisfactory results.

Instead of the gaiter, I used strips of strong cotton cloth, two inches wide, and over twice the length of the leg, one on each side, extending from just below the knee to several inches beyond the foot, fastened securely to the limb by broad strips of adhesive plaster. One fold of the cotton cloth, on each side, was first fastened smoothly, and then the other fold was turned down, and similarly bound by a second turn of the adhesive strips, the cloth being kept taut meanwhile by an assistant. There were three of the adhesive bindings; one just below the knee, another midway the leg, and the third, one inch above the ankle-joint. The ends

of the cotton strips were then tied around the foot board of a Physick's Desault Splint.

By this method, I had the satisfaction of seeing the heel and ankle entirely freed from contact with the bed or splint, and the extension of the limb perfectly secured, without undue pressure upon any one part; the cure being effected in much less time than in the first case, and the limb sustained no shortening afterwards.

Cordially, yours,

T. C. OSBORN, M. D.

*Mr. Editor:—*As we are all more or less at sea on many points relating to syphilis,—points too, of great importance in the treatment of the disease, as well as affording society as much protection as a thorough understanding of its pathology might confer, I will give you a little of my own experience and some of my conclusions, believing that thereby I may possibly aid in throwing *more light* upon an obscure point.

Record by his wit and genius profoundly impressed the medical mind with the dogma, that secondary accidents never contaminated the constitution of the healthy subject. After experience has convinced the majority of the profession, at least, that this was a fallacy. The case I will now detail, amongst other interesting features, is one of many that have been recorded to upset this false conclusion of the brilliant and distinguished author of it.

A young gentleman, about twenty-three or four years of age, married a few months, consulted me for an abortion which his wife had at about two months of pregnancy. I directed the necessary after-treatment and saw no more of him for a week or so, when he wished me to see his wife for a very troublesome eruption, which had been annoying her for several weeks. On seeing the lady, I was surprised at finding a well-marked, leaden-colored syphilitic eruption, covering her neck, shoulders and arms, less distinct in the palms of the hands and on the face. There was also a large patch upon one side of the neck. Alopecia, slight feverishness during afternoon and night

Being familiar with her husband's history, I was not at any loss to account for this state of affairs. His history being the key to a proper understanding of her misfortune.

The husband, some eighteen months before marriage, had a glandular swelling in the groin, which was lanced by another physician, and called a bubo. The young man admitted having had a suspicious connection previous to the bubo, but was not aware of ever having the smallest abrasion upon the genitals.

The bubo was not followed by any known secondary symptoms. and after waiting over a year, he thought of contracting marriage. Being very conscientious on the subject, he determined, though in good health in every respect, to visit the Hot Springs, Ark., that he might bring about as decided a renewal of tissue as possible. He remained there for two months before marriage, and returned with more flesh and vigor than he ever before possessed. Now who can doubt that latent syphilis was communicated to his wife through the medium of the aborted fœtus?

This patient's statements are entirely reliable; they were made to me in all the candor and frankness of friendship, I being his intimate friend and family physician.

How suggestive are some of the points in this case! How much there is yet to learn of it which is now obscured with doubt!

I have long believed that not only syphilis, but other constitutional diseases are often impressed upon the female organization by the male, and that we are by far more literally one, than the Priest dreams of when he solemnly pronounces it at the matrimonial altar. Carpenter speaks of instances in both animals and man, where the offspring by a second father unmistakably resembled the first.

If these facts were generally known, I believe such knowledge, would, in the course of time, add much to the health and proper development of our race, and to the welfare and happiness of society, by bringing widows into a *discount* in the market matrimonial.

States have deemed it proper to prohibit, by legislation, the marriage of cousins, and I honestly believe they would have been as wise in extending the prohibition to widows known to have

once conceived ; and really it is a question if, even, non-conception should afford an exception.

As the above is not a digression, but a legitimate deduction, I hope, Mr. Editor, that your love of science, will get the better of your gallantry for the offending innocents, and cause you not to taboo my effort towards prosecuting the charming widows.

Yours, truly,

J. C. MOBLEY, M. D.,

Lexington, Miss.

N. B.—This lady afterwards had a premature birth at about seven months—child dead. Her own constitutional vigor seemed much impaired during gestation. I do not doubt that the syphilitic taint occasioned this premature birth, as well as the abortion.

“*Opium as a Parturient.*” Messrs. Editors:—I noticed an article in the October Number of your valuable Journal, from the pen of Dr. Barker, of Morristown, New Jersey, upon the value of opium as a parturient. It is expressive of practical thought, and consideration upon the therapeutic effect of that drug in the parturient state ; though I must beg to differ in part, as I can’t entirely see it as described. V

In reviewing the professional history of past experience, my mind has often been much perplexed, concerning the action of opium in obstetrical cases. Sometimes having no trouble whatever—rarely ever having to give the third dose in threatened abortions and premature labors. Again, at other times, it was with the utmost difficulty, that I was enabled to make it subservient to my wishes—and frequently not at all. Of this seeming contrary effect, there must be a solution.

In the spring of 1855, at my earliest engaging in the profession, I was called in haste to see a negro woman, multipara, six months advanced, belonging to Mr. P., who had fallen backward from a mule the day before. She had felt no inconvenience at the time, only a severe jolting. Mrs. P. was very solicitous about the case, and desirous to know if I could prevent the miscarriage. After making an examination, I answered in the affirmative. The “*os uteri*” was easy of touch, and dilated the size of a *ten cent piece*

The pains were regular, but not of much force. I administered twenty (20) drops of *tinct. opii*, and in less than half an hour, she was delivered of a dead "foetus." This, of course, was an unexpected result, and I was much chagrined—for it was supposable that "doctors" should know everything.

Again, in the winter and spring of 1856, an epidemic of rubeola prevailed throughout the country. It was currently rumored, and believed by many, that a woman in the *enciente* state, would abort during the course of an eruptive disease. I treated quite a number, during the epidemic, from one to six months—many were threatened, though not one aborted. Opium was my sheet anchor.

Again, at the close of the year 1857, Mrs. B., primipara, was thought to be in premature labor, I saw her at three o'clock, A. M.,—pains slight, but regular, every ten or fifteen minutes—gave teaspoonful of *elix opii*, and repeated the dose an hour after. This failing to give ease, an examination was made at six o'clock, —found *os uteri* far back, and not easy of touch—mouth closed. Ordered twenty (20) drops *tinct opii*, and repeated the dose in an hour. At nine o'clock, A. M., the pains were of more force,—made another examination, found the "*os*" more easy of touch, and dilated the size of a silver quarter.

The patient was now in a somnolent condition, and without any relief. Under the circumstances I thought it folly to continue to resist what nature seemed intent on doing. Therefore, I ordered some strong coffee to be prepared, and the patient to take as much as she could, at intervals of an hour. The labor was completed at six o'clock, P. M.

Having been taught that opium was a suspender of all uterine pain, whether administered by mouth or rectum, I gave it in the case of the negro, with the firm belief, that I should be able to control the pains. With what result has been seen. During the epidemic, my confidence in the drug was again restored,—meeting the exigences of the case, in every instance. Then, why was this?

The only satisfactory solution to my mind is, that in the case of the negro, nature's rights had been interfered with by the death of the foetus. This was soon to become an offending mass of putridity, and must needs be gotten rid of, before other ills would follow. Therefore the beneficial effects of the

opiate, was simply to overcome a "tenesmic" force of the *os uteri*. This removed, the body and fundus had only to relieve itself at the next labor-throe. If I am correct in this conjecture, then may we not reasonably account for the success of the drug, in the threatened cases during the epidemic, upon the same principle? That nature was being interfered with, from a morbid influence, brought to bear upon the uterine nerves—produced from the concomitant symptoms, arising from a "morbille" state of the system, over which the therapeutic effect of opium had the power to control? I believe with Dr. Barker, that "opium, never does, nor can arrest a physiological labor." But I believe will retard, as it evidently did in the case of Mrs. B., at least six hours. This was not at the expense of nerve force, but by producing a feverish state of the system, as well as suspending, or checking the mucous discharge, so essential to the safe completion of all natural labors. That opiates will have a relaxing effect upon the cervix, while at the same time it stimulates those of the body and fundus to rigidly contract; I can't for the life of me comprehend. I have been taught, and experience at the bed-side has confirmed it, that the whole organ contracts. Oft and repeated are the times, that I have felt the mouth of the womb contracting, and know that the pain had already begun, before the patient was aware of it.

Not unfrequently, it is the case, that parturient women are troubled more or less with a "tenesmic" condition of the *os uteri*, or parts contiguous, that is very perplexing to the accoucheur, towards the close of the "gestative" process.

This I suppose is attributable to a morbid condition of the nerves supplying those parts; over which opium has a controlling effect. It is in the overcoming of this morbid condition, that we expect good results from opiates in *hour-glass* contractions. It is to the stimulating, together with the constringent properties of the drug, that we look for good results in *post-partum* hæmorrhage. Although I consider opium one of our most valuable agents, in the parturient state; to ascribe to it the double property of dilating the cervix, while it contracts the body and fundus *ad libitum*, admits of much doubt, as it is antagonistic to the doctrine of all "intelligent investigators of the phenomena of parturition, who have existed in any age or country." The cervix and *os uteri*, possess a retentive power, antagonistic to that of the body

or fundus; which, if at any time during the "gestative" forces, was overcome, an expulsion of the "*ovum*" must be the result. Were it possible for opium to possess this double property—a property that would overcome the physical laws of a well ordered nature; how many children would there be born at full term? It would be a most dangerous drug, to the multiplied thousands, that would ever destroy that wonderful law of Nature.

The cases above narrated, are only a few of quite a number, that I might produce, as a farther illustration of the fact, that opiates remove "tenesmic" or "morbific" causes of, instead of relaxation of cervix and os uteri.

"Multi multa sceient, sed nemo omnia." J. DOZIER BASS.

CLINICAL RECORD.

COLLATED BY S. S. HERRICK, M. D.

Synopsis of the Clinical Record of Cases Treated by PROF. SAMUEL LOGAN, in Wards Nos. 7 and 9 of the Charity Hospital, during the quarter commencing April 1st, ending June 30th, 1869. Several cases are included, not in the above wards, but under the immediate charge of Prof. L: By E. G. NICHOLSON, Interne.

<i>Fractures.</i>		<i>Diseases of Bones.</i>	
Right Femur and left Fibula*.....	1	Caries of Tibia.....	1
Femur through the Trochanter....	1	" Patella and Fibula*	1
Pelvis and right Tarsus*.....	1	<i>Contusions of</i>	
Tibia.....	3	Ankle	1
Comminuted ankle.....	1	Thigh	1
Comminuted foot, with gangrene... 1		Spine	1
Radius and Ulna.....	1	<i>Abscesses.</i>	
Alveola of upper jaw.....	1	Lumbar	1
Double of the lower jaw.....	1	Palmar	1
Ribs	1	Thecal	1
<i>Venereal Diseases.</i>		<i>Tumors.</i>	
Chancres	3	Lipoma	1
Chancreids.....	4	<i>Carcinoma.</i>	
Gonorrhœa.....	5	Schirrus of Tongue.....	1
Orchitis.....	4	Encephaloid of Testicles	* 1
<i>Constitutional Syphilis.</i>		Adenitis.....	1
Secondary.....	5	Serpiginous bubo	1
Tertiary	6	<i>Eruption from the</i>	
<i>Wounds.</i>		Rhustoxicodendron	1
Incised.....	3	<i>Operations.</i>	
Dissection.....	1	Amputation leg, upper third.....	1
Gunshot.....	4		
Ulcers.....	11		
Strictures	2		

Died.*

The opportunities for operative surgery during my service were unusually limited. The fractures though not numerous were quite varied. In those of the Femur for which Liston's splint was applicable it was used. The extension as a rule was rendered continuous by attaching the strips of adhesive plaster to one or more loops, made of a piece of common elastic cloth, such as that used by shoemakers, tacked to the foot-board. This is Prof. Logan's usual substitute for the weight and pulley, or other more or less complicated or cumbersome appliance for effecting continuous extension in fractures where the action of strong muscles requires to be opposed, and their power exhausted. It has the advantages of being simple and of not being so much in the way as the weight and pulley. The force used can be increased or lessened at will by tightening or slackening the ends of the adhesive strips. It is applicable to all cases where continuous extension is indicated. Fractures of the Tibia were as a rule incased as soon as practicable in the starch-bandage, and the patient placed on crutches. The fracture of the lower jaw occurred in a vigorous man aged thirty-two. He was struck by a slung-shot near the angle, on the left side, fracturing the jaw obliquely through the first molar, and there was also a fracture extending through the socket of the canine tooth, on the right side. The jaw was fixed by a paste-board cradle and bandages.

The following cases may be selected as worthy of special record :

Fracture of right Femur and left Tibia and Fibula ; Extensive Extravasation—Gangrene—Death. ✓

Patrick E., aged forty, wagoner, entered Ward No. 9, 7 P. M., April 18th, under the influence of liquor. At 4 P. M., the patient fell from his seat; the wheels passed over his right thigh, and upper third of the left leg; the thigh was fractured in the middle third; the cuticle was abraded from the surface of the leg, and it was swollen and tense, both bones being fractured directly beneath the abraded surface. He was greatly depressed and restless.

19th.—The circulation in the leg was so feeble from the extreme tension, that Prof. L. incised the outer surface and removed a number of clots of blood and a fragment of fibula. Temporary relief was afforded, and the temperature was maintained by warming-pans. He was restless, however, and the general prostration was still marked; stimulants and opiates were freely given.

20th.—Traumatic delirium had supervened; circulation in the leg very feeble, and every indication of approaching mortification. 3 P. M.—The leg mortified. 12 P. M.—Patient died. In reference to this case, Prof. Logan remarked upon the well-known dangerous tendency of the traumatic delirium of inebriates, and called attention also to the exceptional course of treatment here plainly indicated. As a rule extravasated blood should be left

to the absorbents to be removed ; but in this case the tension of the parts was so great as to require relief, which was only to be attained by incising the leg and turning out the clots. Had the general condition been more favorable the relief afforded in this way may have secured the limb from mortification.

Wm. L., aged thirty.—Deckhard. February 23d, had right ankle comminuted by a cable. February 25th, entered Ward No. 9. The ankle was excessively swollen and painful. The limb was placed in easy position, and evaporating lotions constantly applied. In the course of a week several openings formed through the contused integument and discharged freely. The limb was then suspended in Smith's anterior splint, and the part was dressed with carbolic oil, of the strength of one to ten.

March 26th.—Prof. Logan enlarged an opening and removed the external malleolus, which was detached and dead.

April 16th.—Discharge ceased ; sinuses granulating ; the foot in good position ; it was more firmly fixed, hoping to secure ankylosis.

May 3d.—Ankylosis not effected ; joint movable ; increased motion in a lateral direction. An apparatus similar to that for club-foot was advised, and the patient left the hospital with good use of the joint, but in need of lateral support to supplement the lost malleolus. This case was one of peculiar interest, illustrating, as Prof. Logan remarked, how much injury joint surfaces will sometimes sustain without ankylosis resulting. From March 26th to May 3d, the ankle-joint was kept immovable ; there was continuous suppurative action, and enough vascular nutritive activity to sustain the granulating process, and yet the articular surfaces which remained after the removal of one malleolus retained their integrity. One would have supposed that all the conditions were present which should produce ankylosis, yet this did not occur. Prof. L. stated that from his own experience he would say that such exceptional cases occurred more frequently in the ankle than in any other joint, while as a general rule, injuries of this joint are, nevertheless, among the most serious and dangerous of accidents.

Separation of pubes ; Fracture of Sacrum, Rupture of Bladder, Comminuted Fracture of Tarsus, Death.

Sans. O., aet. 43, seaman ; admitted to Ward No. 7, at 3½ A.M., June 14th, in state of collapse. During a fit of delirium tremens patient jumped from a second story window. On examination, right limb was found movable, but shorter than its fellow, and right tarsus comminuted. No crepitus or pain on moving the limb, but when pushed against the acetabulum it was extremely painful. Tissues around pubes and ileum swollen and tender to touch. On pressing superior spinous process crepitation was felt. Introduction of the catheter was followed by blood only. Stimulants were ordered *pro re nata*. 15th and 16th, partial reaction. Catheter used ; blood and small quantity of urine fol-

lowed; can retain nothing on his stomach. 17th symptoms same as yesterday, passes wind from his bowels, which causes pain. 18th.—Died at 2 A. M. *Autopsy*.—Pubes separated for a space of two and a quarter inches; fundus of the bladder (beneath peritoneum) ruptured; tissues around infiltrated with blood and urine. Oblique fracture of sacrum on the right side. The presumption is that the patient struck on right foot, fracturing the tarsus, the leg and thigh acting as a lever, forced outwards and backwards, disarticulating the pubes and fracturing the sacrum. The pain during the passage of even gas alone by the rectum was explained by the position of the fracture through the sacrum. It was suggested by Prof. L. that this symptom in obscure cases of pelvic injury might assist in the diagnosis of such injuries hereafter. He would in other cases look out for it; and, as death was the almost uniform result, he would be able to see whether the connection between this kind of pain and fractures of the sacrum is of frequent occurrence.

The venereal cases presented all the ever recurring varieties.

The gonorrhoea cases were treated by mild and frequently repeated astringent injections, and special instructions were always given as to the manner of using the same. Preference was given to the zinc and lead preparation, although the necessity of changing the articles used in chronic cases was duly recognized. The following rules in the administration of the urethral injections in general were specially insisted on. ✓

1st. The strength of the injection should be such in each case as just to produce a slight burning sensation or glow in the parts after using it. To accomplish this the strength must be varied with each case.

2d. The patient should always urinate just before injecting, to wash out the urethra and prevent the transfer of pus by means of the injection to the deeper portion of the canal, thus extending the disease backwards by direct inoculation. Many of the cases of epididymitis, orchitis and inflammation of the neck of the bladder are attributable to carelessness or ignorance in this respect. Prof. L. dwelt specially upon the importance of this matter, since Dr. Marion Sims had shown how frequently sterility in the male is caused by closure of the seminal canals from gonorrhoea inflammations transmitted backward.

3d. After the syringe is withdrawn, and while the injection is being retained in the canal in the usual way, gentle friction should be practiced along the lower surface of the penis, in order to cause the fluid to flow back and forth, and thus to open up and lave all the folds and recesses of the mucous membrane. During this process, if the case be recent and therefore confined to the anterior portions of the canal, a finger may be pressed firmly against the bulbous portion of the urethra, so as to close the canal there and prevent the fluid from passing unnecessarily deep. If the case be chronic or in the stage of gleet, this should

not be done, as in such cases we know not how far back the disease may have extended. Very chronic cases were generally much benefitted, and sometimes immediately cured by the occasional passage of a full sized instrument with the continued use of appropriate injections. The balsams were seldom prescribed.

V The dual character of venereal sores was insisted upon, and illustrated by a careful analysis of each case. It will be seen that there was but one more of the chancroids than chancre's. Usually the proportion is much greater. The chancroids were thoroughly cauterized with nitric acid, and then dressed simply with oxide of zinc ointment or carbolic oil. The chancres were dressed simply with the above, sometimes being also stimulated by one application of some caustic. No faith was attached to protective cauterization in these cases, even when the case was seen early.

Whenever the history was clearly given, and there had been but the one coitus, a period of incubation of from ten to twenty days was observed. Prof. L. taught that in such cases the indurated sore was evidence that no local cauterization would protect the system. The disease could not be prevented from becoming constitutional from the moment of the absorption of the virus. In several cases a marked anæmic stage was observed during the period of lymphatic complications. Prof. L. considered that Virchow's theory of the production of the state of leucocytosis satisfactorily explained this condition. The irritation of the lymphatic glands, in his opinion causing an excessive production by those bodies of the white corpuseles of the blood. During this stage tonics were administered, either alone or with a gentle mercurial course. Mercury was never given as a preventative, no confidence being placed in its use in this way. It was withheld, as a rule, until general symptoms showed themselves. If the sore proved obstinate, and the specific induration was also unmistakably present, these facts were considered as calling for a mercurial course, even if as yet no general symptoms had shown themselves. Iodide of Potassium was mostly, though not exclusively relied upon, combined with tonic treatment throughout, in the later developments. It was given in gradually increasing doses until its therapeutic effect was attained. In some old cases it was necessary to give very large doses, and Prof. L. specially enjoined upon the students the importance of regulating the dose by the requirements of each case, increasing the same until the desired effect was obtained, or the stomach failed to tolerate the medicine. He remarked that very often the remedy fell into ill-repute because this principle was ignored in its administration. In some cases very large doses were required and tolerated, especially when combined with tannic acid in some form, as it was Prof. Logan's habit to do. An agreeable method of administering the agent in a vehicle which contains tannin, and at the same time is not too expensive for hospital use, con-

sisted in the addition to each eight ounce mixture of about two ounces of the syrup of orange rind, *syrupus corticis aurantii*. In one case it became necessary to increase the dose of iodide of potassium to *over two* drachms three times a day before the nocturnal pains were subdued. Nor did this dose, continued for some days, produce the slightest digestive disturbance. The usual dose to commence with in old tertiary cases was from 8 to 10 grains.

The incised wounds were of no moment, readily healing. The dissection wound was of some interest. John R., aet. 28, assistant in the anatomical rooms of the New Orleans School of Medicine. On 15th January patient was sawing the thigh bone of a syphilitic subject, holding back the soft parts with a tenaculum in the left hand: the tenaculum slipped and entered the ball of the right thumb.

16th.—Feverish, thumb swollen and painful. On the 20th the swelling had extended up to the axilla, and the surface was of a deep-red color; patient depressed and nervous.

21st.—Slight tetanic symptoms showed themselves; the arm and thumb were deeply incised, and foul pus was discharged. Quinine and iron were prescribed, with brandy and best diet.

23d.—Tetanic symptoms entirely disappeared. Prof. L. attributed them only to nervous excitement from pain; he did not consider them truly tetanic. The violence of the inflammation gradually subsided.

March 28th.—Sinuous openings leading to dead bone penetrated the ball of the thumb. Prof. Logan resected the first phalanx and head of metacarpal bone of the thumb. A general scorbutic condition showed itself a few days after the operation, and prevented the result being as favorable as anticipated. The wound did not entirely heal up until the scorbutic symptoms yielded to treatment. He had been a sailor some years ago and had suffered severely from scurvy, though at the time of the receipt of the dissection wound he seemed in the enjoyment of good health.

Prof. Logan called attention to the interesting fact that the disturbing influence of the blood derangement dependent on the erysipeloid inflammation from the dissection wound seemed to give renewed vitality to the long dormant scorbutic diathesis.

The gun shot wounds were superficial, excepting that of J. P., aet. 28, policeman; entered pay ward night of May 18th, a few hours after receiving the shot. The ball passed from within outwards two inches below the anterior tuberosity of tibia, shattering both bones downwards; several fragments are definable; one about three inches long extended through middle third of the bone and was entirely detached and thrown forwards. The following is a succinct detail of the condition and progress of the case:

May 18th. Pulse 76; general condition good, suffering pain.

19th, 20th. Pulse 108; high fever, limb swollen, red and hot, appetite good.

21st, 22d. Pulse 101; fever lessened, limb red and swollen with gas in the limb.

23d, 24th, 25th. Pulse 100; leg incised, discharging bloody fluid and bubbles of gas.

4th, 5th. Pulse 100.98; inflammatory symptoms gradually disappeared; discharging freely of pus, appetite good, sleeps well.

June, 6th, 7th. Pulse 102; feverish, leg swollen, hot and discharging sanious matters.

9th, 10th. Pulse 100; symptoms less violent; appetite good.

11th, 16th. Pulse 98; symptoms favorable, swelling decreased, color natural.

17th. Pulse 100; red blush at instep; leg painful, discharging freely.

18th. Pulse 112; high fever, restless, anorexia, erysipelatous blush covers the leg, which is much swollen; discharge stopped.

19th, 20th. Pulse 120; the erysipelas extends over thigh; leg discharging freely.

21st, 27th. Pulse 122.104; erysipelatous inflammation extended over the surface of the entire right side of the body and face, and then to left side of cheek, and down to the left knee; hiccough; laxity of bowels.

28th, 30th. Pulse 104; erysipelas comes and goes in spots, no hiccough, slight appetite, in good spirits.

July, 1st, 10th. Pulse 100; patient weak, feverish at night, bowels loose, leg discharging freely, swelling considerably reduced.

17th, 26th. Pulse 100; improving; some bony union laterally; sleeps and nourishes well.

Aug., 22d. Pulse 98; discharge continues, but is gradually decreasing in quantity; several fragments of bone worked out to the surface and were removed.

September 6th.—There has been a steady improvement in the local and general condition. A few more small fragments of bone have been extracted. The local irritation is so much reduced that a starch bandage was applied to the whole limb, made quite stiff behind and with a large opening over the seat of injury, where there are three sinuses still discharging.

September 16th.—Still improving in every respect, a few specula have been at times removed. The parts appear to be consolidating, with, however, excessive callus, as might have been expected.

Sept- 26th.—Patient quite robust, and union still more solid. Two more small spicula have been removed.

Oct. 11th.—Removed starch bandage. A large lump of callus at seat of injury and leg quite firm. But dead bone is still felt at the bottom of two of the sinuses; the third seems to be merely a branch of one of the others. There is a good prospect that a tolerably useful limb may be the result. An operation to remove

the dead bone still remaining, may become necessary however, before the sinuses close.

The notes of this case have been continued after the term of my service expired on account of its special interest.

The case was one in which amputation would seem to have been the proper treatment, at least so far as danger to life was concerned.

But the patient at no time would consent to it; and such was the determination of character displayed, and such recuperative vigor of constitution was shown after each of the very serious attacks of erysipelas, that the hope of saving the limb, though but very faint at first, steadily increased toward the end.

The success in this case, however, Prof. L. considers, should by no means be taken as a guide in other cases. In by far the majority of such injuries an attempt to save the limb would result in the death of the patient. The treatment was simply tonic and supporting; and the parts were kept covered with lint soaked in carbolic oil of the strength of one part of the acid to twelve of olive oil. At first the limb was supported on pillows, afterwards retained in a fracture-box for a few weeks, and then suspended by means of Smith's anterior splint. The patient while in this hospital was treated by Prof. Logan and Dr. Smyth, the House Surgeon in consultation. He left the hospital a few days after the starch bandage was applied, but continued under the professional care of Prof. Logan to the present date.

The cases of stricture as a rule yielded readily to gradual dilatation applied in the ordinary way. Prof. L. urges the adoption of this method as the rule, only resorting to other means when this fails. He has frequently used Holt's immediate dilator, and approves highly of it in such cases as are located anteriorly to the bulbous portion of the urethra, and even in some cases at or near that division of the canal. When he resorts to it in the latter case, however, it is only after the method of gradual dilatation has had a fair trial, and then he uses it with care, employing the smaller cylinders gently passed down, and therefore used as a dilator, rather than with the view of rupturing. He believes, however, that even when rupture of the stricture substance is produced, it does not necessarily follow that the mucous membrane is torn, this probably stretching, while the submucous condensed stricture substance proper gives way.

The cases of caries were in scrofulous subjects. The case of caries of the tibia had been operated on several times in hospitals and entered the ward in a cachectic condition. His general health was greatly improved by treatment, but as amputation was the only radical relief, and his condition at no time warranted an operation, he was retained under observation. The case of caries of the patella was carried into the ward in a very debilitated state; the joint was involved; he died a few weeks after admission. Necropsy revealed absence of the cartilages and

a carious condition of the condyle of the femur. The tibia of the same leg at the ankle was carious.

The contusions were severe. That of the ankle occurred in a man working in marble. A slab fell against the outer malleolus and severely bruised the parts; the joint became swollen and surface sloughed. Time, however, disabused our minds of the fear that the joint was involved. Under carbolic oil dressings the sore rapidly healed, and the patient was discharged in a few weeks.

The case of contusion of the thigh was in a sailor who fell from the rigging on his right thigh; stiffness and partial paralysis of the limb followed, but in the course of six weeks he recovered sufficiently to scale the walls and disappear.

V The case of fatty tumor was of interest from its position, and the delicate dissection necessary in its removal. It occurred in the person of Thos. P., aet, 35, Teacher.—First during the year 1861, noticed tumor on inner surface of right arm at lower edge of axillary space. It continued to increase, but within past year seemed to be at a stand. The only inconvenience experienced was from pressure on the nerves.

April 15th.—Prof. L. excised the tumor. It weighed six pounds, and was interspersed with masses of atheromatous degenerations. Its deeper portion extended between the axillary vessels and nerves, and when it was removed they were all exposed as if the part had been dissected. The wound healed kindly by granulations, and the patient “went on his way rejoicing,” at the relief afforded by the operation.

The case of cancer of the tongue was typical of that class of disease. The following is a synopsis of the case so far as it was observed:

R., aet. 68, German; entered Ward No. 9, January 14th. December, 1868, patient noticed swelling in vicinity of the left submaxillary gland; tongue soon felt stiff and sore; no pain, but the induration spread rapidly to the floor of the mouth and frenum of the tongue on the left side; the latter on admission was ulcerated, as far back as the finger could reach; the tissues were indurated, and there was an excessive flow of viscid offensive and bloody saliva. The tongue was tightly plastered down to the floor of the mouth, and the neighboring cervical glands were extensively involved. No operative procedure was deemed justifiable, and the patient having been informed of the hopeless character of his case, left the hospital in search of some of the numerous promise vending charlatans who infest the city.

V The following is a report of the only case of cancer in the wards during the three months which was observed to the end. It illustrates the fact that the promptness of the return of the disease bears a marked ratio to the rapidity of growth of the primary affection, a point specially insisted upon by Prof. Logan:

Chas. R., aet. 26, admitted to Ward No. 7, April 20th. Com-

plexion ruddy; thin in flesh. In December, 1868, patient noticed left testicle enlarging. For three months the growth was very rapid, accompanied by no pain, but only a feeling of weight and tension on the cord. One month previous to admission had occasional shooting pains up the cord. The testicle was about four by two inches in diameter and had a feeling of semifluctuation.

April 30th.—The patient being chloroformed, Prof. L. made eleptical incisions and removed the testicle, dividing the cord with the ecraseur, consuming intentionally some twelve minutes in doing so. No hæmorrhage or unpleasant symptoms followed.

The Professor stated that no hæmorrhage need be feared if the division with the ecraseur be very slowly effected.

May 16th.—Patient complained of pain in the region of the umbilicus and in the lumbar region. Vomited after meals during the day.

From 16th May to June 7th, complained of violent pains after meals, and on assuming an erect position. A well-defined tumor is felt to the right of the mesial line an inch and a half above the umbilicus; still vomits after meals.

17th.—Constant tenesmus; passes blood; pain in the abdomen of a lancinating character; vomits daily. Two grains of morphia administered hypodermically only eased the patient for a few hours. Symptoms increased in violence; patient gradually sinking until the 20th, when he died.

Autopsy.—Pancreas changed in shape and covered with cancerous nodules, one of which was apparent on palpation during life, being the tumor felt externally; the kidneys agglutinated to the mass, but not involved, the rectum showed two patches of cancerous infiltration, and one patch was found in the descending colon. These patches were ulcerated, and their presence explained the dysenteric stools.

The only case of amputation was the following:

Dominique P., aet. 25, admitted to pay ward March 6th. March 1st a bale of hay had fallen on patient's left foot. On admission the foot and ankle were found gangrenous. A deep gash exposed the external malleolus. The general condition, however, was good; tongue only slightly coated; pulse ninety.

March 9th.—Prof. Logan in the presence of the Class, the patient being chloroformed, amputated the leg at the junction of middle with the upper third, by Fergusson's method of making small elliptical skin flaps and then dividing the deeper parts by the circular plan, retracting the parts so as to saw the bone some one and a half or two inches above the base of the skin-flaps. Prof. L. considers this a good compromise between the circular and the flap operation, as it decreases the length of the skin-wounds, and has all the practical advantages of the circular method. One hour after the operation, the patient was easy, and pulse ninety; at 6. P. M., pulse ninety-eight. No anodynes were

required during the treatment. The patient, however, was very unmanageable; he would move the stump about, and the result was that the end of the tibia protruded through the anterior of flap. The limb was then fixed in a pasteboard position splint, and thus kept quiet. The end of the tibia exfoliated.

May 9th.—The stump is healed and the patient is discharged. Prof. L. recommends that in all such cases the necessarily heavy posterior flap should be supported in the mentioned way. He also frequently uses a posterior splint to prevent the large posterior muscles from dragging too much on the flap and to guard against spasmodic action. The traction exerted by the fleshy posterior flap whenever the patient lifts or moves the stump tends to draw the skin in front against the tibia. Usually the pain excited by motion keeps the patient quiet, and then the bed or pillow upon which the stump rests acts the part of a support. But if it becomes necessary to transport the patient, or he is callous to pain and unmanageable, a splint of some sort should be used to support the heavy posterior flap.

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Almost complete Ossification of the Human Body: By WM. M. BYERS, M. D., Columbus, Colorado county, Texas.

B., a youth of 17, came under my notice first about four years ago with extensive ossification of the muscular system, which continued to progress till his death, which occurred a short time since. The early history of his case, as given by his family, is as follows:

He was a healthy, stout child at the age of eight months, at which time his parents removed to Texas by land. During their continuance on the road and camping out, they first discovered tumors about in different parts of his body, the size of small marbles, and very hard. These tumors gave apparently but little pain, and in no way affected the general health. After an interval of twelve or eighteen months the tumors began to disappear by absorption, and about the same time stiffness of the joints was manifested. Gradual ankylosis followed, and at the age of ten years the hip joints with those of the arms were completely ankylosed. The ossific matter began then to be deposited in the muscular system. The chest became inclosed with a complete sheet of bone, leaving no traces of outline of the ribs. The head was immovably fixed by the ossification of the sterno-cleido-mastoideus on each side. The muscles of mastication were as yet unaffected, and his ability to chew his food not impaired. His digestion was good, and his mental faculties more than ordinary. He could as yet use his wrists and hands, his arms being stiffened at right angles, thus allowing him to whittle a little with a pen-knife. When placed upon his feet he could move

slowly and cautiously over a smooth surface, but if he got a fall, was unable to arise unassisted. Movement, however, as the ankylosis progressed, became more and more difficult and totally impossible at a later period. He did not increase in stature after his tenth year, and never manifested any signs of virility. The forms of the muscles were perfectly preserved and could be distinctly felt through the skin, which adhered closely to them. The deposition of ossific matter continued during his life, and when he died, he was almost complete bone. Up to the hour of his death his mind continued clear and unimpaired, and his digestion until a short time previous, was excellent. He suffered no pain, and was cheerful and apparently happy.

Cancer of Stomach: By DR. VIRGIL E. KERSH, Relf's Bluff, Arkansas.

EDS. JOURNAL—*Gentlemen*: I have recently had to treat a case of cancer of the stomach, presenting symptoms throughout its course of some interest, inasmuch as they led to a mistaken diagnosis; until an examination was made after death, the true nature of the disease was left in obscurity. Having never seen a report of a case of this kind, accompanied by such symptoms, and, at the same, thinking an account of it might be hereafter of some benefit to the profession, I submit to you a condensed statement of the symptoms, treatment, and post-mortem appearances.

The patient, Madison Rodgers, a negro, 48 years of age, when first I saw him, was suffering apparently from a dull pain in his right side, had a slight cough with some expectoration, having the appearance of blood, his tongue was of its natural appearance, pulse no faster, but a little harder than usual; skin dry, and bowels constipated; however, he had no fever, and his appetite was good. He stated to me that he had been "spitting" blood every since July, 1868; had had no pain until about two months previous to my visiting him, (in March, 1869), none of his people were ever subjects of phthisis pulmonalis, and until now he had enjoyed excellent health, except having once had an attack of rheumatism. He had a well-developed chest, which upon examination by auscultation and percussion, manifested no indications of disease, though he complained of soreness whenever the slightest pressure was made over the region of the liver.

With a view of correcting the disordered state of the blood, and secretions generally, he was given a purge of calomel; afterwards he was brought slightly under its influence, and then given pills of the comp. ext. of colocynth as an aperient, a large blister was applied over the liver and the irritation kept up for several days by tartar emetic ointment. No change took place in his disease during three weeks, but at the end of that time, the pain,

which was constant before, assumed a periodical character; he was also troubled with severe cramps of the stomach, occurring generally at night, and in the morning when he attempted to rise from his bed. While the cramps were on him, he suffered excruciating pain, would beg for relief; however, it could only be procured by administering large doses of morphia. Immediately subsequent to each attack, he would cough, expectorate blood in small quantities, or, to use his own language, it would rise in his throat. Quinine was now given in large doses for its anti-periodic effect, also the iodide of potassium, commencing with fifteen grains and increasing it daily for several weeks, but without producing any perceptible change in the disease. The bromide of potassium was then given in its stead, but with the same result. As he suffered much from cramp of the stomach and was compelled to take large doses of morphia as an only resort for relief, his bowels, already torpid, were rendered more so, and it was necessary to give as an aperient, daily, from five to seven pills of the following formulæ:

R	Pulv. Rheu.....	grs. 100.
	" Aloes.....	grs. 120.
	" Gamboge.....	grs. 20.
	Hyd. Sub. Murias.....	grs. 60.
	Pills No. 100.	

Some time about the 1st of June his attacks of cramp became more frequent, he could lie on neither side, only on his back, and then often complained of a severe pain as arising from the lower extremity of the sternum, and from thence passing directly through him, that is, to the vertebræ; large quantities of pus were discharged at each action of his bowels; conium maculatum was given during the day, and the morphia at night; in a few days he seemed to be improving, in general health at least, when more nourishing diet was ordered and a tonic course pursued. Carb. of iron was tried first, though he complained of the smallest dose feeling heavy in his stomach, the sulphate was then administered in 7 gr. doses thrice daily, and the treatment continued until July 1st, when his disease took another change—he complained of a dull pain striking him in his right shoulder and extending downwards to the pit of the stomach, of a feeling of coldness and a general numbness of his right side, paralysis of his right arm,—a tender spot was discovered along the course of the spine, a blister applied, also another to his right side, just below the nipple, strychnia and stillingia were prescribed commencing with small doses to be increased until twitching of the muscles was observed, or some change took place in the disease. This happened within ten days, when the paralysis subsided; his condition now remained the same until the 27th of July, the expectoration changed from its former appearance (that of blood) to a muddy cider color and was more profuse, he also had hectic fever every evening, he lost flesh daily.

July 30th had diarrhœa, and hæmaturia, passed bloody urine frequently, attended by great pain; his expectoration changed to pus of a greenish yellow color; pulse irregular and intermittent. He was given 20 drops of spts. turpentine and a small dose of the fluid ext. buchu thrice daily,—brandy every hour. A rattling noise could distinctly be heard several feet from the patient, at every act of respiration, in his trachia and lungs. He remained in this condition, greatly emaciated until August 4th at 9 o'clock A. M., he died.

He had very little fever during his long illness, his appetite was unimpaired throughout the course of the disease,—asked for his breakfast the morning he died—he never vomited but once and then from the effects of an emetic, never felt sick, the only thing troubling him was the pain, and cramp of the stomach, and a soreness of his right side. No medicine produced any effect on the disease, however at times he would appear better, but within a few days his disease would assume its progress again. He was not confined to his bed until about two months before his death. Several medicines were given which I have not mentioned; a seton was introduced through the right arm, and another through the muscles of the back, over the dorsal vertebræ, without producing the least effect.

Dr. Hendly, being present at the time of his death, as well as myself, requested an autopsy; his friends being anxious to know the true nature of his disease, consented, and an examination was made at 5½ P. M., on the same day.

Post-mortem appearances—*Brain*, of its normal appearance.

Lungs, the left one healthy, congested a little from gravitation, right one had several recently formed tubercles in its apex, congested also, two warty excrescences were found growing on the bronchial tubes at the bifurcation of the trachia, in size as large as the first joint of one's thumb, and of a cartilaginous consistence.

Stomach; which now proved to be the entire seat of his disease was in a complete state of disorganization, being just half as large as one's fist, and converted into cartilage of a yellow and granular appearance, a section of it resembling the breast bone—or cartilage of the breast bone of a beef, vulgarly known as “brisket;” its cavity was scarcely large enough to admit the first joint of a finger, and was filled with a purple-bloody fluid. One artery passing through its coats was ossified completely, the pyloric and cardiac orifices also were ossified; several adhesions were formed with the surrounding organs, viz: with the spleen, pancreas, and transverse colon, also with the vertebræ (it seems reasonable from the appearances after death, to suppose that the nutriment taken by the patient must have passed directly through the stomach, if so, it took no part in the process of digestion.)

Liver enlarged and congested, also of a darker color than natural.

Heart; healthy.

Gall-bladder filled with bile.

Kidneys congested, and presenting marks of inflammation.

Bowels ulcerated, though not more so than in many cases of diarrhœa.

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*Corroding Ulcer of the Uterus and other Cases : By WM. DESPEZ,
M. D. Tuscumbia, Ala.*

Mrs. B., æt. 46; mother of seven children, was attacked about a year ago with uterine hæmorrhages, for which she applied to my friend, Dr. Pride, who, on examination, found an ulcer on the os and cervix uteri, which healed up under the usual treatment, and she was dismissed as well. In about three weeks after, he was called in again, when he found, that since he had seen her last, a very offensive brown discharge had commenced flowing from the cavity of the uterus, the odor of which reminded him of carcinoma uteri. After trying various remedies, considering the disease malignant, the Doctor called me in.

I found the parts quite natural; vagina very roomy; no adhesions or indurations; the uterus in situ; no ulceration, os and cervix normal. The Doctor passed a No. 6 gum-elastic catheter into the uterus, as far as the fundus, when about three table-spoonsful of matter same as that described, was discharged, the odor was remarkably offensive, and of that peculiar brown color so well described by Churchill. She did not complain of any pains in the abdomen, merely a sense of weight and pain in the back; the functions of the bladder and bowels natural. After carefully examining the case, we diagnosed it malignant or corroding ulcer.

As she lived about eight miles from the Doctor, and as his business did not permit him to give her the necessary attention, he advised her to come to town, and place herself under my care. She came up in the latter end of the month, and remained nearly three weeks, during which time the uterus was washed out daily with milk and water, using after a solution of permanganate of potassa one grain to the ounce, touched the parts occasionally with the liquid nitrate of mercury, and gave her the syrup of sarsaparilla with iodide of potassium three times a day. At the end of that time her general health had improved considerably, the discharge had become purulent, although occasionally the brown discharge would occur, but was gradually becoming less, and was not so offensive. She became very anxious to go home, and said she would come up again whenever I wanted her. From what Ashwell, Churchill and Copeland said of the disease, I did not feel satisfied in holding out much hope. I consented,

on condition she should come back at least every tenth day, when she returned, I introduced a piece of caustic into the uterus as high up as the fundus, leaving it there for about a minute, and gave her Donovan's solution, to be taken three times a day. When she returned, I had the satisfaction of finding the discharge lessened, containing only pure pus. I continued the same treatment every tenth or fifteenth day for a couple of months, when the discharge entirely ceased. The last time I saw her was the middle of March last, there had not been the least appearance of any discharge whatever since her last visit. I recommended her to continue Donovan's solution, for at least three weeks longer. I have frequently seen her husband since; he reports that she still continues well. I think I may safely set the preceding case as that very rare disease, "corroding ulcer," which I believe was first noticed by Dr. Clarke.

Ashwell says he met with only two cases of it in twenty years practice; and that in five hundred cases of disease of female sexual organs reported in Guy's Hospital, not one of this disease is mentioned. One of his cases continued for five years, which he says was arrested for two years. He seems to think the disease curable if treated at the commencement.

I have no doubt, that had this case been allowed to go on without attention, it may have ended fatally. And although it may only have been *arrested*, yet it is a solace to know, that though we may not have cured a disease, yet we have been instrumental, through the blessing of God, in prolonging life.

June 8th, 1858.—Livinia, aet. 27, property of Mrs. M., was attacked with symptoms of peritonitis, for which she was treated in the usual way. On the fifth day I found her so much better that I dismissed the case. Late in the evening I was sent for, the messenger saying that Livinia was dying. I found her pulseless; extremities cold, and in a state of extreme prostration. She died about two hours after my arrival.

Next day, with the assistance of Dr. Cross, I made a post mortem examination. On opening the abdomen found blood effused among the intestines, and some adhesion. On removing them, discovered nearly a quart of blood in the pelvis, which was sponged out, and found a foetus of about four months, lying in the cul de sac between the vagina and rectum, the fundus of the uterus ruptured; the placenta still adhering to the internal surface; the walls of the uterus were scarcely one-fourth of an inch thick. Where the rupture had taken place it was scarcely one-sixteenth of an inch thick, the walls were softened and easily torn with the finger.

On reporting the result of the post mortem to Mrs. M., she said that she had observed that the girl would get large occasionally and seem swelled. She would complain for a week or two, and keep her bed; when she got up, would appear as small as usual; that this occurred frequently for the last seven or eight years, at which times she had no doubt procured an abortion.

I think it is probable that these frequent abortions brought on

by her, were a cause of disease, which ended in softening and thinning the walls of uterus; and this last attempt to produce abortion was the immediate cause of the rupture. All who have been engaged in the practice of medicine in the South, know what a common thing abortion was among the negroes. I might almost say that this case is unique, as I find no record of rupture of the uterus at this stage of pregnancy.

V *Double Birth with Placenta Pravio—Mother and both Children saved: By A. F. MAGRUDER, M. D., Sharon, Miss.*

August 21st, 1869.—Was called to Emma R., a colored woman, æt. 25 years, previous the mother of eight children, her first having been a double birth.

I found her prostrate from hæmorrhage, with quick and feeble pulse, and anxious countenance. Stated that she had been in active labor about two hours.

A few minutes previous to my arrival, she had given birth to a female child, buttock presentation, as stated by her "granny," finding respiration established I tied and severed the cord at once, and proceeded to examine the mother. On introducing the finger I found the placenta partially detached and occupying the os and upper portion of the vagina. The spasmodic pains had subsided, but when my fingers were passed around the placenta, I at once detected the vertex of a second fœtus presenting against and bearing it down.

My object now was to hasten the labor if possible, and arrest the hæmorrhage. With a view to this, I kneaded the fundus of the uterus with the fingers of one hand, while with the other introduced into the os uteri, I produced "orificial stimulation."

The effect was prompt and satisfactory. A vigorous pain occurring, I took advantage of it to relieve the remaining adhesions of the placenta, which was immediately expelled, bringing along membranes and fœtus. I hastily divided the membranes, and taking hold of the cord, which I found pulsating, tied and severed it, and by prompt application of the cold douche resuscitated the child. The mother, by the use of proper means in due time reacted, and I left her comfortable in the enjoyment of her new born daughters.

The nature of this case, I think, may be readily understood. The margin of the placenta originally occupying the os uteri, had been detached at the first birth, allowing the fœtus which was quite small, to occupy the os and be expelled. The fœtus at the same time acting mechanically to prevent the hæmorrhage which would necessarily have occurred. But the placenta becoming more extensively detached, after the first birth, was forced down by uterine contraction, and occupying the os, was fully engaged by the presenting part of the second fœtus, and would most likely have resulted in fatal hæmorrhage but for timely interference.

The mother presents an interesting and remarkable case of fecundity, being in her twenty-sixth year, and the mother of ten children.

Report of a Case of Hæmorrhagic Malarial Fever : By J. S. WEATHERLY, M. D., Montgomery, Ala.

On the morning of the 24th November, 1868, I was sent for to see Mr. E., at the Exchange Hotel, in this city. Mr. E. says that he came to the city on yesterday evening. Has been living on the Mississippi river for the last year below Vicksburg, and has been suffering at intervals for several months from *intermittent fever*. He says that he had a chill on the 23d, on the boat coming up from Selma, and another on this morning; in fact, he is scarcely through with it now, 10 A. M. He seems to be very uneasy about himself, and says that he fears he will have the "bloody urine disorder, (his own words,) as it was prevailing extensively in the region where he has been living. He has been vomiting, and has had several actions from his bowels this morning. Says that his urine is perfectly natural in appearance. He is of a bilious-nervous temperament, very dark hair, and skin rather dark, (naturally.) Ordered R. morph. sulph. grs. i., soda ʒi., aquamenth ʒii., mix. Teaspoonful every half hour until nausea ceases. Then R. quin. sulph. grs. xxiv., ext. hyos. grs. iv., m. ft. 8 pills—two every four hours, until all are taken—to commence with pills as soon as stomach will bear them.

25th.—9 A. M., says that he had another chill at 9 o'clock last evening, (24th,) and thinks he had another early this morning. Is now very restless; skin turning yellow; has cough and bronchial murmers. Says that his urine looks like blood. There was none in vessels, and he could not pass any just then. Continue quinine. Ten P. M., still very restless; pain in the back and shoulders; pulse over hundred per minute; large vessel full of dark looking urine, which I have no doubt is almost pure blood, from its appearance. I asked him to urinate in a vial, which he did. It looks like pure blood.

(Dr. Michel, of this city, kindly submitted this specimen to microscopical tests and says that it is blood without doubt. In fact, the naked eye is sufficient to tell it.) He seemed to be suffering so much that I gave him hypodermically $\frac{1}{4}$ gr. morph., and ordered him to continue quinine. Has not taken quinine very regular on account of nausea, and having no reliable nurse to administer it.

26th.—10 A. M., skin completely bronzed; still passing bloody urine having passed at least one and a half gallons in twenty-four hours. He is to continue quinine and also to take large doses of hyposulphite soda. Pulse one hundred and twenty. One P. M., Dr. J. M. Williams saw him with me; says that he

has never seen such complete bronzing of skin. Some nausea still. Ordered him to have milk and lime water as nourishment, thinking that it would also quiet stomach. Five P. M., hands cool; pulse ninety-eight. Thermometer in axilla, ninety-six. Says that he feels as if he had a chill. Still passing bloody urine. Coughs a good deal and expectorates thick green mucus. He is also complaining of great pain in bowels. I now gave him (five P. M.) five grains quinine and one-fourth grain morph. sulph. hypodermically. Eight P. M., pulse one hundred and thirty-six. Thermometer in axilla one hundred and three. Sleeping some, but still complains of pain in bowels. I am now satisfied that he had a chill this afternoon. Continue hyposulph. soda and five grains quinine hypodermically at twelve o'clock to-night. My Nephew, Dr. T. J. Weatherly, kindly consented to remain with him and insert quinine at the proper time.

27th.—Eight A. M., Dr. W. reports that his fever subsided before twelve o'clock, and that he gave the quinine; that he had a large evacuation from his bowels during the night, which was of apparently same character as the urine. He passed no urine up to this time to-day; pulse ninety-eight; thermometer ninety-six; skin feels pleasant, but is very yellow; conjunctivæ deeply tinged; still coughs and expectorates dark green tenacious mucus. He also occasionally eructates green looking matter. Complains (and in fact has all the time) of great weight and oppression about chest and abdomen. Gave him five grains quinine hypodermically; left off the hyposulphite, as he says that it nauseates him. Continue milk and lime water.

One P. M., pulse one hundred; thermometer ninety-six; some nausea; still eructates and expectorates green looking matter. Complains of great weight in præcordial region; has had a small evacuation from bowels deeply tinged with bile; no urine; give five grains quinine hypodermically.

Ten P. M., still no urine; pulse one hundred and four; says that he must be better; that he has had an erection; seems more cheerful; gave him another dose quinine hypodermically.

28th.—Eight A. M., has passed a very restless night; nausea and vomiting constant; matter vomited very green, in fact, the greenest looking stuff that I ever saw vomited. Has passed urine once, no blood in it; pulse one hundred and ten; skin cool to the touch, but thermometer still indicates ninety-six. Ordered him to have hydrag. submur, grains iiss., opium, grs. ss., in pills.

Two P. M., has not vomited since last visit; no urine. Still coughs and expectorates green mucus. Some bronchial throbs over lungs; no pneumonia; repeat same pill.

Five P. M., is now quiet; has passed urine freely; perfectly healthy in appearance; pulse one hundred and four; not much nausea, but has hiccup occasionally. Gave him one-fourth grain morphine, hypodermically.

29th.—Ten A. M., has hiccuped all night; pulse one hundred,

and of good volume; skin feels cool; thermometer ninety-four; tongue moist and clean, (as it has been all the time,) rather pointed. He has been very thirsty all the time, and has taken ice freely; probably too freely, as he has had no one that could restrain him. Gave him fifteen drops chloroform in mucilage, and repeat if hiccups continues.

Five P. M., more quiet; hiccups occasionally; has had no action from bowels for some time; pulse ninety-six. Ordered him to have an enema of soap-suds, which passed off, tinged green, but very little fecal matter. Ordered chloroform when necessary, also chicken soup and milk, as nourishment.

Ten P. M., quiet and more cheerful. Gave him another dose of quinine hypodermically, and a pill, composed of podophyllin, grains i., co. ext. colocynthidis, grains iii., ext. hyoscyami, grs. ii.

30th.—Sent for me at five o'clock this morning; has hiccuped all night; has not been able to sleep any for it. If he gets into a doze hiccup comes on and awakens him; has passed urine freely, and has had two good actions from bowels, dark and rather thick. He looks better, and says that he would feel first-rate if it were not for the hiccups. Gave him water to swallow slowly, which quieted hiccups for the time. Has vomited once or twice, and still expectorates green mucus.

Nine P. M., has hiccuped nearly all day, in spite of all usual remedies. I now administered half ounce chloroform by inhalation, but he hiccuped when under the full influence of it. Ordered two grains oxalate of cerium every two hours, thinking that it might quiet his stomach, and also the hiccups.

Dec. 1st.—Eight A. M., still hiccuping, though he has had some sleep. Continue cerium and apply mustard to spine and large mustard poultice to abdomen.

Six P. M., still hiccuping and vomiting.

Dec. 2d.—Seven A. M., awoke just as I entered the room with a convulsive start and hiccuped for an hour without an intermission, gulping up mouthfulls of the greenest looking matter that I ever saw. Pulse one hundred and still of good volume. Kidneys acting freely; has had several dark operations; very thirsty; tongue and hands very dry. Ordered him to drink Congress water, ad libitum.

Five P. M., about same; still hiccuping. Gave him the thirty-second of a grain of atropine hypodermically.

Ten P. M., not hiccuping so constantly; says that he is very sleepy. Continue Congress water; also lime water and milk.

Dec. 3d.—Seven A. M., has spent a miserable night; has vomited some dark, green looking matter frequently; still hiccuping; has had several very dark operations; has passed urine freely; tongue feels as dry and stiff as ever; awakes from sleep with sensation of choking, and has a frightened look; still hiccups and vomits, though nurse thinks not so often. Asked for lem-

onade; ordered it for him, also milk punch in place of lime water and milk. Thinks he could sleep if it were not for sensation of choking, which comes on as soon as he gets to sleep and awakens him.

Four P. M., still vomiting. Applied blister to the epigastrium, thinking that it might quiet the vomiting.

Ten P. M.—Hiccuping and gulping up mouthfuls of green matter almost constantly, seems more feeble, has passed urine freely; Has had **one** or two good actions from bowels.

Ordered the following powders to be placed on the tongue every half hour until stomach gets quiet:

R Hydarg. Submurias.....grs. x.
Pul. Sacch. Alb.....grs. xx.
M. ft. 5, cht.

Dec. 4th, 8 A. M.—More quiet; has taken all the powders; has not vomited since.

Five A. M.—Pulse 104. Complains very much of throat, which is still very dry; bowels have moved once, and kidneys still act freely. Seems to be getting more feeble.

Ordered soda water and soda cocktails; also, chicken water.

Four, P. M.—Speaks in whisper, and puts his hand to throat as the seat of pain. Mind still perfectly clear—still hiccuph. Pulse one hundred; has not vomited much to-day. Continue same treatment; and to gargle throat with chlorate potass.

Fifth, 8 A. M.—Has had a bad night; hiccups and vomits constantly. Bleeding from nose.

8 P. M.—Complains terribly of throat and difficulty of breathing, has bled a great deal from nose. To take milk punch; and apply a strong liniment to throat. Complains of great burning in stomach, for which prescribed bismuth in twenty grain doses.

6th, 9 A. M.—He is evidently sinking. Has not vomited or hiccuped much since last night, but still complains of throat and difficulty of breathing, is propped up in bed—and has a frightened appearance; pulse getting feeble; still bleeds some from nose; great difficulty in swallowing—apparently from spasmodic action of throat. Death took place at ten P. M. to day.

Post-mortem.—Sixteen hours after death—kindly made by Dr. Michel. Rigor mortis well marked. Body completely discolored. Pericardium and dura mater very yellow; tentorium cerebris very yellow. Brain not at all vascular; fawny grey, firm and natural in every respect. Circle of Willis almost empty; not at all congested, cellular tissue very yellow; muscular tissue bright red; lungs healthy. Pericardium bright yellow, contains small quantity dark colored serum. Bladder distended with urine. Omentum healthy, though discolored, red softening of tissues, but all partaking of the livery of the disease. Pancreas healthy in appearance; stomach filled with dark grumous bile; mucous membrane thickened and vascular; spleen natural in appearance, but enlarged; weight 1 pound $3\frac{1}{2}$ ozs.; intestines healthy

in appearance; kidney apparently not congested; when cut into present dark green color, capsule is easily separated, weight ten and one-half ounces; liver darker color than natural; otherwise seems healthy; weight four pounds eight ounces. Gall-bladder filled with thick, dark bile, resembling meconium in appearance.

The above is the outline of one case of one of the most terrible and unmanageable diseases that I have ever encountered. The name given it by Dr. Michel, of this city, seems to be more appropriate than any other that I have seen proposed. He proposes to call it *Hæmorrhagic Malarial Fever*; and this, it seems to me, is just what it is. It is certainly a malarial fever, for we never hear of it any where except in highly malarious localities, and in persons who have been suffering from repeated attacks of malarial fevers.

As to treatment, common sense would tell us that the best thing to do, is to prevent it. When it does come, our treatment must be based upon the facts that it is emphatically a malarial fever, and must be treated as a malarial fever,—modified by such complications as may arise during the progress of the disease.

P. S.—The above is the case alluded to by Dr. Michel in his paper upon *Hæmorrhagic Malarial Fever*.

RESUMÉ OF FRENCH MEDICAL LITERATURE.

BY J. H. WIENDAHL, M. D., NEW ORLEANS.

PHYSIOLOGY.

Remarks on Diet after Resection of Bones.—Mr. Bouley, on the 10th of August, presented to the Academy of Medicine, a note in the name of André Sanson, in which the author submits a few observations relative to the alimentary regimen after resections of bones.

The study of the elementary materials, in daily use with the most successful breeders, which enhance most the precocity of the animal species, or sooner complete their bony skeleton, proves them to be those wherein chemical analysis reveals the greatest amount of the calcareous phosphates which enter into the constitution of bones. They are, in general, the seeds of cereals, of leguminous or oleaginous plants, of which a daily ration gradually increased is early made use of in the alimentation of young animals.

It is necessary, first, to call attention to the bread, which forms so great a part of the aliment of the French. In the present in-

stance, it may exert a very important influence, according to its mode of preparation.

The flour of wheat contains only 0.40 of phosphoric acid, and 0.02 per 100 of calcareous matter; that of rye contains 0.70 of one and 0.05 of the other; but what is quite important, is that we find in the bran of wheat 2.50 of phosphoric acid and 0.11 per 100 of calcareous;—white bread being made up of sifted flour, is in consequence greatly deprived of its phosphate.

It is not then with white bread that the operated in question should be nourished, but with bread containing the greater portion of its bran, but still better with that made after the method of Mège-Mouriés, which still preserves with its whiteness all the nutritious elements of the wheat grain.

Mr. Sanson is not unacquainted with the fact that unsuccessful attempts have been made to influence bony formations, after subperiosteal resections, by the introducing of the phosphoric element in the economy of the operated. There is no cause, says he, to be astonished that these efforts did not succeed. For minerals or other substances can only enter the constitution of the tissues by being subjected to digestive absorption, in a form which renders them assimilable. Then the alkaline hypophosphites which were administered in a direct manner, as well as the powder of bone, cannot be considered as aliments. The natural earthy phosphates elaborated by vegetables, only possess that property, as is proved by zootechnic observation.—*Gazette Medicale*, 14th August, 1869.

Essay upon the relation existing in the Physiological state between Cerebral activity and the composition of the Urine: By HENRY BYASSON.—The conclusion of the principal researches of H. Byasson can be thus drawn up :

The exercise of cerebral action, properly speaking, or of thought, is attended by the more abundant production and the simultaneous appearance in the urine of urea, and of alkaline phosphates and sulphates. The exercise of muscular action is attended by the more abundant production and the simultaneous appearance in the urine, of urea, uric acid and chloride of sodium.

Being separately given, the urine of a man who, for three days, has followed a uniform alimentation and whose external conditions have been strictly identical, it would be possible, by analysis alone, to find out to each one of which corresponds, in a relative manner, the state of rest of cerebral or muscular activity.

The following facts are deserving of, besides being pointed out to, the attention of physiologists and physicians.

Byasson has observed that the variable acidity of the urine is always in proportion to the quantity of uric acid. In opposition to the results obtained by Leccanu and Lehmann, this last is seen to present notable diminution by the influence of regimen.

If we calculate the quantity of potash necessary to neutralize

the different weights of uric acid obtained, we find that it is less than that which gives the strict determination of the acidity; the difference between the two numbers are greater according to the greater amount of acid that the urine contains. The explanation of this fact springs from the following observations: uric acid is not the only free acid of the urine; hippuric and carbonic acid contribute partially to the acidity; the amount of this last is proportional to muscular labor effort, as shown by Morin, and its variation is then influenced by the same cause as the uric acid.

It is generally admitted that the acidity of the urine is due to the alkaline phosphates transformed into acid phosphates by the uric acid which, by this reacting act, must remain principally in the state of urate of soda.

The author combats this opinion by the following argument:

1st. Can uric acid take away the soda from the common phosphate of soda, being composed: $2 \text{ Na. O, HO. Ph. O}_5, \text{HO} ?$

He cannot mean the tribasic phosphate, $3 \text{ Na. Ph. O}_5, \text{H.O.}$, the presence of which, in the urine and blood some authors admit; this salt is so easy of decomposition by the carbonic acid, always in a free state in these two liquids, that until proved otherwise he remains of opposite mind. To resolve this question he made a solution of uric acid and phosphate of soda in various amounts of matter, *i. e.*: 1 gr. to 100, 5 to 100, 10 to 100 grammes. He first determined the co-efficient of the solubility of uric acid in water at 15° , and as mean of four corresponding concurring evaluations, he found it equal to 1:2100; chloride of sodium does not change the solubility; acid muriatic diminishes it; phosphate of soda in the proportions above indicated, increase it about double. This last body, well purified by several crystallizations, gives solutions very slightly alkaline to litmus paper. When for two or three hours, by frequent shaking, an excess of uric acid at 60° , is made to act upon a solution of phosphate of soda, the following reactions are noticed, after having filtered the cooled mixture: the solution has become acid, and after twenty-four hours, a slight crystalline deposit is produced; examined by the microscope, the crystals assume the form of straight-right prisms with a well-defined square base; when we have experimented with the L. p. 100 solution of phosphate of soda, with the solutions of 10 p. 100, the crystals become grouped and appear under the form described for the urate of soda.

After forty-eight hours he separated the crystals by filtration, and by slow evaporation; if the evaporation is carried to dryness and that now and then the crystals formed and analogous to the first are repeated, we perceive that the residuum taken up by the water yields a scarcely acid solution; if the phosphate of soda had been transformed into the acid phosphate, if urate of soda had next been formed we should have obtained quite a different result. What are then the composed crystals that have been separated? Washed and dyed they are soluble in cold

water; then calcined in a platina capsule a previous experience showed that they contained uric acid; this last operation shows that they leave a fixed residuum, alkaline, but containing phosphate of soda. The body was crystallized, perfectly defined; we must admit a combination of uric acid and phosphate of soda; this slightly soluble compound gives, however, an acid solution, and its solubility is greater in urine than in distilled water.

Thus uric acid exists in part in a free state in acid urine, in part in combination with the alkaline phosphates, (Byasson.)

Byasson has undertaken these researches on account of a question studied and disputed by several chemists, and amongst others by Berzelius, Vigla, Thenard, Becquerel, Purst, Quevenne, Donne, that the deposits of urate, which soon form after the emission of urine, in those containing them, furnish ashes, which contain a great deal of phosphate of soda. If, in nominal urine, we retard the decomposition by adding a few drops of essence of petroleum, after agitation, uric acid separates in crystals when its quantity is over that which may be held in solution. Several causes concur to its ready precipitation by muriatic acid mixed with the urine:

1st. This acid adminishes the proper solubility of uric acid.

2d. It decomposes the combinations of this body with the alkaline phosphates.

3d. It retards the ammoniacal fermentation of the urine, combines with the ammonia which forms and which in the free state acting by the presence of the lime and magnesia upon the alkaline phosphates, transforms them into insoluble phosphates, and causes the uric acid to pass into the state of urate of soda, and then in part into the urate of ammonia, this explains why these various bodies are found in the sediments of altered urine.

For all these reasons, he thinks that the uric acid exists in the urine, partly in a free state, partly joined or combined to the alkaline phosphates.

The state of rest or cerebral activity does not modify the proportion of uric acid, which, on the contrary, is found to have increased in the days of muscular activity.

The urea, thrown off by the urine, in one who has ingested a sufficient quantity of aliments, amongst the number of which are represented those of animal origin, has two quite distinct courses and of very unequal importance. The greater part proceeds from the disassimilation of the anatomical elements forming the tissues; it is the more abundant as their activity and proportionally to their rapidity of nutrition and renovation. It is urea in a manner fundamental, necessary, that there may be life; when its formation descends beneath a certain limit, all action becomes extinct, and death is the result. The urea of calorification is of much less importance, and in the case of an alimentation feebly azotized and relatively rich in feculent and fatty materials, its proportion must be quite small. This observation is especially

true for the child, in the process of growth. The urea of disassimilation proceeds principally from the organic apparatus whose functions are in greater activity, and which we can enumerate.

1st. The fulfillment of respiration, of digestion and of circulation considered in themselves.

2d. The accomplishment of voluntary muscular activity.

3d. The completing of cerebral activity.

But, we repeat, if it be impossible to make this distinction in an absolute manner, it is on account of the intimate connection of the different systems never acting in a resolute manner.

The change of regimen produces a considerable variation upon the whole mineral substances; the difference acts mostly upon the chloride of sodium, and urine, relatively rich in salts, formed the principal beverage for the twelve days of mixed alimentation during the experiments of Byasson.

The most important variations observed, the only ones deducted from the analysis of the author, are relative to phosphoric acid, and to chlorine. We can resume them by saying: to the cerebral activity is connected the appearance in the urine of a relatively greater proportion of the two first bodies; to muscular activity, that of the chlorine. A few observations deducted from the examination of the urine of patients affected with acute delirium and of delirium tremens, published by Bence Jones, accord in part with the results of Byasson. But we will remark with Beale, that we cannot consider them as complete, having been made upon a smaller scale; but these studies have great importance and they will complete and fortify these conclusions.

It will cause some astonishment no doubt to find that in the state of rest, chloride of sodium is thrown off in greater amount, than when the body is in muscular activity. But since the researches of Favre, we know that this salt is in greater amount than any of those contained in the perspiration, and as this excretion is necessarily activated by muscular exercise, it would be meet, by way of conclusion, to be able to find out how much is eliminated by this means. The phosphates and sulphates are on the contrary, in quite weak proportion in this liquid, and the considerable sufferers which correspond to the cerebral and muscular activity cannot be attributed to it.—*No. 5, September and October, of the journal d'anatomie and de physiologie normales et phthologique de l'homme et des animaux par.*—M. CHARLES ROBIN.

THERAPEUTICS.

Burns with fetid slough, Speedily disinfected by Sulphate of Iron.—We are aware that the most dangerous results of burns, of the third or fourth degree, is the infection produced by the sloughing of the disorganized tissues. When the eliminating inflammation sets in, the wound inhales an odor which is poisonous to the patient, and those surrounding him. We should then be speedy

in warding off the impending putrid intoxication and in overcoming the evil at its source. We may to that end make use of carbolic acid; but it is often easier to procure the sulphate of iron—in point we cite an instructive instance taken from the *Bulletin de la Société, Médicale de la Suisse Romande*.

Dr. Joel, Director of the Children's Hospital of Lausanne, cites the recent case of a child of four years, admitted in that hospital for severe burns. Fire had taken his clothing whilst alone. The thighs, genitals, abdomen, nates and the whole of the back presented an immense brownish eschar everywhere continuous, (third and fourth degrees.) There was besides a lesser burn of the fore-arm. The child was wrapped in cirated plasters covered with a mixture of oil and lime. But on the fourth day a profuse foetid suppuration took place, putrid, intoxicating accidents were at the eve of setting in; the odor rendered the ward insupportable to the other inmates; the child was twice a day from that time for about fifteen to twenty minutes placed in a warm bath, containing two handfuls of sulphate of iron. The sedation immediate, the suppuration was assuaged, *all odor disappeared*, and admitted the hope of a favorable issue. As the sloughs fell the dressings were made with glycerine.—*Sept. Journal de Médecine et de Chirurgie, for 1869.*

Preservation from Cholera by Copper—Dr. Cherean, in the *Ephemerides of L'Union Médicale*, written at the retrospective date of September 30th, 1862, remarks:

"At last, the cholera has made its last victim, after having in twenty-seven weeks carried off 18,402 Parisians of both sexes (9,170 males and 9,232 females) out of a population of 785,862 inhabitants. What is wonderful! *Pantin, La Villette, les Près Saint Gervais, Belleville*, and all localities surrounding the horrible receptacle of Montfaucon, are comparatively free of the epidemic! No knacker indisposed! Only one dessicator of fecal matter is taken with cholera."

It had also been remarked, in this fatal epidemic, that the copper-smiths were in general exempt from the scourge. Out of one hundred and twenty-five members of the society of *Bon Accord*, founded in 1819, and composed exclusively of turners, mounters and carvers of bronze, we did not have a single death. But should we wish with regard to this subject to consult the truly wonderful work of M. Burg, of which M. Dumas has but recently made a lengthy analysis to the Academy of Sciences, we will perceive that this same society of *Bon Accord*, which numbered, three years ago, three hundred and fifty members, had met with the same good fortune during the epidemics of cholera of 1853, 1854, 1865 and 1866. M. Burg went still further, and from the minute inquiry which he has made during many years, he is able to show that in the epidemics of 1865 and of 1866, the mortality by cholera amongst the copper-workers was but three out of ten

thousand. Secondly, that in the copper trades the cases of cholera are in proportion as the amount of the metal or the increase of its powder in quantity and in fineness renders it easily absorbable by a previous oxydation, for in the copper-smiths business the cases are fewer and fewer in number, amounting even to a mere cypher. Thus out of about six thousand workers in brass did there either in 1865 or in 1866 occur a single patient in the hospitals, whilst in other trades, such as those of steel and iron, there was one out of one hundred and thirty-nine, and in other works than those of iron and copper, such as workers in zinc and lead and potters, etc., one case out of one hundred and seventy-five.

Sixteen deaths occurred, out of whom four only (two carvers and two turners) should have had a right of immunity, here is in fine the passive of twenty-five or thirty thousand workers of copper in the schedule of the two cholera epidemics of 1865 and of 1866.

Dr. Cherean hopes that the sanitary measures of the government may be effectual in warding off the scourge—if not, he thinks that the arduous studies of M. Burg may afford a basis for a rational prophylaxis and authorize serious experimentation upon the salts of copper in the treatment of the cholera.—*October number of the Journal de Medicine et de Chirurgie*, for 1869.

Pills of Carbolic Acid in Skin Diseases.—THE medical action of carbolic acid taken inwardly in cutaneous affections, produce results which are not sufficiently known by us. In Germany, on the contrary, the experience of Kohn made public by Hebra, has given such notoriety to this mode of treatment, that I here reproduce an extract of a note inserted in the "*Archives Medicales Belges*."

It is always in the pilular form that Kohn administers carbolic acid in skin diseases. Each pill being thus composed :

R	Acid Carbolic (crystallized).....	gr. five-sevenths.
	Ext. Liquorice.....	} qs.
	Pulv. "	

Kohn begins by 6 to 9 pills ; later, he gives from 12 to 20, and even 60 pills in rebellious cases.

The first effect of this medication is the diminution, followed in a short while by the removal of cutaneous hyperæmia.

Later, itching ; and its results "(excoriations, insomnia etc.), yield and cease entirely."

The results are published to date ; 27 cases of *psoriasis*, the cure of which was obtained in 26 days ; 1 case of *pytiasis rubra*, 5 of *prurigo*, and 1 case of undefined pruritus.—*September number for 1869, of the Journal de Medicine et de Chirurgie*.

Treatment of Aneurisms of the Aorta, by Secale Cornutum and other Therapeutical means. Peculiarities relative to the seat of Cicatricial

Strictures of the Oesophagus. Virtue of lemon juice in a case of grave Stomatitis produced by the eating of fermented cheese. Hotel Dieu, Clinic of M. Béhier.—Mr. Béhier, in speaking of spontaneous great aneurisms of the thoracic and abdominal cavities, made a few remarks pertinent to a medication which has been extolled in the treatment of all aneurisms. We mean the injection of ergotine by the hypodermic method.

The promoter of this medication, Langenbeck, based its use upon the fact, that ergot enjoys the property of exciting the contractions of the smooth muscular fibres, and of being thus an efficient agent of hæmostasis. Bold, in his theory, the Professor of Berlin, made his first practical experiment upon a patient aged 45 years; who had had aneurism of the right subclavian since 1864, which formed a large tumor beneath the clavicle. This patient, deprived of sleep, experienced violent pain in the right arm; the hand was atrophied; he was unable to write. On the 6th of January last, Langenbeck injected three-sevenths of a grain of an aqueous extract of ergot beneath the skin and covered the tumor with the following mixture: Extract of ergotine of Bonjean, 38 grains; alcohol, 2 drachms; glycerine, 2 drachms.

The following day, diminution of the tumor; improvement of the general state; night good. From the 6th of January to the 17th of February, 30 grains of the ergotine had been injected—the injections were in the mean made at intervals of three days, and of the dose of three sevenths to eight-sevenths of a grain at each time. The amelioration progressed without interruption, and the patient; who previously could not hold a pen, wrote on the 17th, a long letter to his brother. The aneurism still pulsates, but much weaker than before; it has greatly diminished in circumferential extent.

This observation was sent to the Academy of Berlin, and, in the *post-scriptum* of the accompanying note, Langenbeck, to corroborate this new use of ergotine, cited the case of a carpenter, aged 42 years, in whom he had just treated an aneurism of the right radial, by the same means, and which was about the size of a filbert, and had existed for 20 years. One single injection of fifteen-sevenths grains of the aqueous extract of ergot had sufficed to cause the removal of the tumor in one day.

Since the above communication, Dr. Rouge, of Lauzanne, has tried the sub-cutaneous injections of ergotine in a case of aneurism of the ascending aorta, but only succeeded in diminishing the excessive pulsations of the tumor, without arresting its progress.

Up to the present, no treatment has succeeded, in similar cases, but the iodide of potash, in very large doses, and compression, practiced under the control of chloroform during the space of two to five hours. These are still to be considered as phenomenal.

This being the case, the practitioner, as Stokes has expressed

it, should not forget that with an affection in general incurable, life can be indefinitely prolonged; and that consequently, we should not impair the uniformity of the organism without the hope of obtaining the cure of the local disease.

Nor does Behier, any more than the physician of Dublin, declare himself a partisan of the treatment of Vasalva. He, however, cites the case of a woman affected with an aneurism of the abdominal aorta, who was cured by that treatment. She was nourished exclusively by liquid aliments, and drank nothing but pure water. Every second day she was bled at the arm. She took digitalis, laxative enemata and purgative oils. At the end of the eighth month, there was noticeable improvement, then a relapse, followed by a resumption of the same treatment, and finally, she was cured.

But, remarked Behier, it is a dangerous measure by which one more surely strikes at the patient than at the disease. Therefore, no general bleedings, no debilitating treatment to excess; and, even, no moxas which are of no utility, no injections capable of producing gangrene of the pouch, of provoking its being emptied and of thus precipitating the catastrophe.

In 1830, Stokes and Graves, discussing the treatment of great internal aneurism, called attention to a medication entirely opposite to that of Vasalva, and which had been productive of great improvement, in two cases of abdominal aneurisms reported by Proudfoot and by Beaty. These facts led Stokes and Graves to advise a generous diet instead of debilitating means, with the view of producing a more readily coagulable state of the blood. Since, these two practitioners have had often repeated proof of the usefulness of giving, in similar occurrences, to patients, a repairing alimentation, and even to prescribe them diffusible stimulants.

Case of Stricture of the Œsophagus.—M. Béhier has had for some time under treatment in the hospital, an individual who presents a sufficiently common form of stricture of the œsophagus. This man, for a long time addicted to drinking, swallowed, whilst in an inebriated state, a glass of *eau seconde* (a mixture of equal parts of nitric acid and water), instead of his accustomed liquor. An acute œsophagitis was the result of this error, which, later, produced a double cicatricial narrowing of the alimentary canal.

Strictures of this kind develop themselves sometimes slowly, two months, for instance, or more, after the accidental or voluntary ingestion of an offensive liquid; and, what is remarkable, the process of cicatrization which produced the stricture here, has two seats; the one at the distance of the breadth of two fingers from the pharynx, and the other at two or three fingers width from the cardia. Alike results are formed from the erythema produced by antimony, as observed by Béhier in several instances after death, in the pneumonias treated by tart-emetic after the method of Rasori.

With regard to the case in question, the stricture had taken place in the third month, there was a double seat which we have just pointed out, and which constitutes a sort of pathological law.

We should, then, after having passed the first stricture with the œsophagal *sonde à boule*, expect to find a second at three, four or five inches lower down. If we do not keep in view this second anatomical lesion, and persist, thinking that we have only to deal with a spasm or moveable obstacle, we will undoubtedly make a false passage. Charles Bell, cites a physician, who, in thus acting, thought to his great joy, that he had overcome the stricture, whilst he had penetrated into the pleura.

We have cited this fact which seems to us to be little understood, and from which springs the precept of never practicing catheterism, but *gently* and *gradually* be making use of a whale-bone guide, upon which can be screwed balls of ivory or of horn of various sizes, and which are capable of producing, by being substituted one to the other, and by graduating, without jerks and without possible deviation, the dilatation, which we are desirous of obtaining.

Violent Stomatitis produced by Fermented Cheese, and cured by Lemon Juice—A store servant, having good antecedents, *i. e.*, having never had recourse to mercurial preparations, was brought in the service of Behier, on account of violent stomatitis. In examining the mouth, no aphthæ nor ulcerations, or grayish patches, nothing of a pultaceous nature. What was most striking was a universal brilliant redness, with loss of epithelium, without tumefaction of the tissues, covered by the mucous membranes. This was alone affected. Finally, this was a simple erythematic stomatitis, but of an exceptionable intensity.

The patient attributed, and with reason, this buccal lesion to an excess in the eating of fermented cheese. In fact we often meet with dried and fermented cheese, particularly those of Rocquefort and Gruyère, which acquire with age irritant properties similar to those of mustard and produce a stomatitic affection of the nature of that of which we treat.

However, happily, this is more painful than grave. It is worthy of remark, however, that when cured, the patients preserve an extreme susceptibility of the buccal mucous membranes especially to salted aliments.

How should we treat the stomatitis? by substitution. If we prescribe emmollients, decoction of figs, marshmallow or poppy, etc., the sanguinous tufts persist with tenacity. We should then make use of excitants, alum, chlorate of potash, and beyond all citrons. In the patient of Behier, the mouth was energetically touched in every direction with a piece of lemon. The blood flowed from the papillæ, but a notable change for the better was immediate, and the cure was complete on the following day.—*October number of Journal de Medecine et Chirurgie, for 1869.*

PHARMACY.

Process of Magnes Lahens for the Preparation of Tar-water.—From the unreserved eulogy made of this process before the Academy of Medicine, by M. Robinet, we hope that it will be profitable to our readers to give here a few details of the *modus operandi* of the pharmaceutist of Toulouse.

1st. Half an ounce of the semi-liquid tar of Landes suffices, by this process, to conveniently charge a quart of water.

2d. Thirteen ounces of sand sufficiently subdivides one-half an ounce of tar; (tar is the easier absorbed by water, in proportion to the greater bulk of sand.)

3d. Water at a temperature of 20° centigrade, suits quite well to produce the lixiviation, (during summer water at normal temperature can be used.)

4th. This is easily obtained in five minutes in a displacing apparatus of one and a half quarts, to which is adapted a draining beek giving off a quart in five minutes. (This apparatus, an indispensable complication of the process, consists of a cylinder box of tin, of the capacity of little more than a quart, open at one of its extremities and possessed at its other extremity a bottom to which a small draining tube has been adapted.)

The following is the manner of operating of Magnes Lahens: Semi-liquid tar, ʒss.; sand previously washed and dried, ʒxij; mix intimately in a porcelain mortar; introduce the mixture into the apparatus and pour upon, water at 20° centigrade, one and one-fifth quarts.

When the first tenth of a quart has drained off, (of the first washings,) M. Magnes Lahens applies a bottle of a quart to the beek, and in five minutes he has obtained a quart of a very limpid tar-water.—*October number Journal de Medecine et de Chirurgie, for 1869.*

SURGERY.

Hæmorrhage of the Palm of the Hand arrested by means of Prepared Sponge.—In 1867, Demarquay made a successful use of sponge in certain cases of capillary hæmorrhage, when the blood ran in stream, or when after great operations secondary hæmorrhage were apprehended. Recently Emile Levy, médecin major, has published two observations which confirm the utility of the hæmostatic sponge, especially in wounds of the hand.

Case 1st.—A soldier aged twenty four years, fell upon a fragment of broken glass, which wounded his hand. The blood jetted at great distance, and was arrested after two hours by means of a stream of cold water, and by direct compression. This accident happened on the 1st January, 1869. On the 4th the hand and forearm were painful and tumified, but no recurrence of hæmorrhage. The 11th an exploratory pressure upon the hand produced a sufficiently large jet of blood, which was momentarily checked by means of pledgets of lint and a bandage. Hæmorrhage re-ap-

pearing, the patient entered the hospital, where a lesion of the radio-palmar was diagnosed.

Dressings of balls of lint impregnated with perchloride of iron, compression of the radial and cubital arteries, roller bandages—tourniquetts of J. L. Petit, prolonged digital compressions—all means of compression were by turns tried. Disappointed they were about ligating the brachial or axillary artery, when Prof. Herpin had recourse to sponge prepared in the following manner: The clot being removed and wound cleaned, and after having fruitlessly sought for the wounded artery, he introduced to the utmost possible depth a piece of prepared sponge saturated with perchloride of iron, and ended the dressing by covering the hand with pledgets of lint, of which a few were saturated with perchloride of iron. No compression was exercised upon the arteries.

The hæmorrhage was not re-produced; only after a month were portions of the sponge nipped off, of which the rest was expelled on the 30th of March. At this date the cicatrix was perfect.

MIDWIFERY.

Puerperal Eclampsia—Treatment of Midwifery by Saline Purgatives.—Although the treatment of eclamptic convulsions by the bromide of potash has of late not so many upholders, yet we trust that the treatment of a disease at all times so uncertain and perplexing, may well admit of every new adjuvant which careful experience may bring forward.

The present, is that of Dr. E. Charvee, of Bruxelles, who now for the second time within a few years, brings forward instances of his success in the treatment of eclampsia by means of saline cathartics.

We here append the case:

"April 11th, 1869, a woman of 20 years, of confirmed lymphatic constitution; having attained her full term of gestation, when during the course of the evening, she is taken suddenly with frightful convulsive paroxysms."

"When I arrived, at 12, M., labor was arrested. I proceeded to artificial delivery, and at the end of three hours, delivery was obtained without much hæmorrhage. The convulsions being still reproduced with equal violence, and three convulsive attacks having taken place since confinement. I then with considerable difficulty administered per spoonful, a draught of citrate of magnesia, (magnesia $\bar{3}$ j). A fourth paroxysm recurred, but not as violent as the preceding, and was the last. But new complications had set in. Great fever and a comatose delirium supervened. At nine, A. M., second purgative lemonade. Three, P. M., same state; third lemonade. At six, P. M., fourth lemonade. At 10, P. M., great agitation, sign of metro-peritonitis—composing potion with laudanum. Following morning, considerable distress has taken place; the patient soon returns to consciousness,

and spite of great debility, she was out of danger at the end of the third day.

In comparing this with his previous article, Dr. E. Charvee has aimed to establish the utility of saline purgatives rapidly administered until producing its physiological effect, in the development of puerperal eclampsia, particularly in the eclampsia which persists after confinement.—*September number of the Journal de Medicine et de Chirurgie, for 1869.*

Potion against Galactorrhœa.—Morbid galactorrhœa, according to Cazeaux, a species of mammary diabetes, is a grave affection which, if not arrested by weaning, leads to *phthisis* of the *nurses*. The milk secreted is thin, serous, visibly altered, and flows in a passive manner and almost continuously from the mammary glands.

In a letter addressed to the *Gazette des Hopitaux*, of the 9th of September, M. Legendre reports the following observation of a woman, who, since the weaning of her child, *i. e.*, since six months, had become exhausted by a secretion of milk which no treatment succeeded in moderating. Bearing in mind the therapeutical action of ergot upon the secretions and abnormal exudations of the uterus, upon spermatorrhœa, etc., and the physiological connections existing between the functions of the mammary glands and the organs of generation of the female, he thought that by analogy he would obtain a favorable result from the use of ergotine in galactorrhœa, and therefore prescribed the following:

R.—Ergotine of Bonjean.....	grs. 32
Simple syrup	ʒj
Vehicle	ʒjv

the wife to take a spoonful three times daily. The cure was complete on the 9th day, and during the three past years two new pregnancies followed by nursing of the children, did not bring a return of the affection.

Since then, he has twice had recourse to the same treatment and with like success:

1st. In a case where the galactorrhœa had existed for eight months.

2d. In a woman of St. Etienne, afflicted for *eight years* with a continuous and abundant flow of milk by both mammary glands, and in whom the general state had been successfully maintained best by regenerating means.

In the two cases the decisive results were as rapidly manifested as in that treated in the first instance.

CHRONICLE OF MEDICAL SCIENCE.

! PRACTICAL MEDICINE DIGEST.

BY A. C. HOLT, M. D.

Catarrh and Bronchitis.

Prof. Geo. Johnson, of King's College, gives in the British Medical Journal, some views of the treatment of these very common and troublesome maladies, none the less valuable because of their simplicity, and that they are devoid of novelty. Recognising as the most common exciting cause, some atmospheric influence which suppresses the action of the skin, the most successful plan of treatment consists in employing means for the restoration of its full action. After, according to several familiar plans for accomplishing this, he thinks that on the whole, that which combines in the greatest degree efficiency with universal applicability, consists in the use of a simple hot-air bath, which every patient can command in his own bed-room. All that is requisite is a tin spirit-lamp with large wick, which should hold sufficient spirits to burn half an hour. The patient sits undressed in a chair, with the lamp between his feet rather than under the chair; an attendant then folds two or three blankets around the patient, from his neck to the floor, so as to enclose him and the lamp, the hot air from which passes freely around his body. In from a quarter to half an hour there is usually a profuse perspiration excited, which continues when the patient gets to bed between warmed blankets. He also advocates as another simple and efficient mode, wrapping the undressed patient in a sheet wrung out of warm water, and over this folding two or three blankets, remaining thus "packed" for an hour. He remarks in passing that the hot air bath and the last packing are of great value in many forms of disease, especially in renal affections and suppressed eruptions, so often attended with alarming symptoms and fatal results, and in which medication promises so little relief.

In many cases opium will produce similar good results—but many are intolerant to opium—camphor also in the incipient stages is a valuable remedy; but all the different modes mentioned must be applied in the early stages.

Acute bronchitis is an exaggerated catarrh; the two diseases are essentially the same and require the same principles of treatment, modified only by severity of symptoms. In the early stages when the mucous membrane is dry and swollen, the hot-air bath or the wet packing may be employed once or oftener, with advantage. In this stage, zact. aut. and potas. in doses of one-sixth of a grain combined with lig. ammon. aut. acts most hap-

pily. The temperature of the room is a matter of much importance—it should be maintained at from 45° to 65° , the air being kept moist by steam from the spout of a kettle, or any other convenient mode which may suggest itself. When dyspnoea with tightness and oppression is present, a moderate abstraction of blood by cups, often affords prompt, decisive and permanent relief. Venesection is rarely required, though in the case of vigorous subjects suddenly seized with general capillary bronchitis and threatened with death from apnoea, venesection may prove a life-saving remedy.

Milk and beef tea form the most suitable diet during this stage of the disease. Stimulants and opiates are to be avoided as a rule, on account of their tendency to increase the congestion and dryness of the inflamed mucous surfaces. In the second stage, when free secretion has been established, a combination of liquor carb. ammon. with chloroform, is useful as a stimulating expectorant and antispasmodic. Brandy or wine in moderate quantities may now be required. When in the advanced stage, there is profuse purulent secretion, with copious perspiration, the ammonia mixture may be replaced by one, each dose of which contains one grain sulph. quinine, two grains sulph. zinc, and twenty minims aromatic sulph. acid. When the secretions accumulate and threaten suffocation, the patient becoming blue and cold and drowsy, and the cough nearly or quite ceasing, an emetic of sulphate zinc is wonderfully efficacious in clearing the air passages. In this stage, the patient who has been laboring for breath day and night, craves rest and sleep, and often begs for an opiate. A small dose given in such a case may cause fatal narcotism. Opium should never be given to a bronchitic patient who has the slightest blueness of the lips. In our variable humid climate, bronchitis in children is one of our most formidable diseases. In the second stage, from one to three grains of hydrochlorate of ammonia in a mucilage of gum arabic every two or three hours, alternated with grain doses of tannate of quinine will be found of great value, and nothing will give more satisfaction than the application of a jacket of oil silk next the skin of the little sufferer. Attention to the uniform temperature of the room, and to keeping the air softened with warm vapour is of the first importance.

Chloral.

The British Medical Journal of October 9th, contains a summary of Prof. Richardson's lecture on this article. The most important points being as follows, viz: Deep and prolonged narcotism can be safely produced by the hydrate of chloral; during a portion of the period of narcotism, there may be complete anaesthesia with absence of reflex action, a condition in short, in which every kind of operation fails to call forth con-

sciousness. During the narcotism, there is invariably reduction of temperature; the hydrate produces muscular relaxation, which relaxation extends to the muscles of volition, and also to the iris and muscular arterial system. The action of the substance on the nervous system, is primarily on the sympathetic ganglia, afterwards on the cerebrum, and finally on the heart. Recovery is followed by no bad results.

The substance in small proportions, prevents, in some degree, the coagulability of the blood; and in large quantities, stops the process of coagulation altogether, destroys the blood-corpuscles and produces general destruction of the blood. But to produce deep insensibility, the dose administered need not be so large as to lead to serious derangement of the blood. The phenomena observed correspond with those observed under chloroform. Therapeutically, the agent is to be accepted as the rival of opium, and promises to be useful where there is increment of animal heat with muscular spasm and pain. Prof. R. thinks it worthy of extensive trial, in tetanus especially. The dose of hydrate of chloral for a child is seven grains; for an adult it may be increased to one hundred or one hundred and twenty grains.

In the New York Medical Journal for November, is an extract from the Berlin correspondence of the Lancet, which states that Prof. L'Auque used the hydrate of chloral in a case which proved to his satisfaction, its wonderful sedative properties. A woman with fracture of the humerus, which threatened to become compound through her constant movements, she having strong delirium tremens when admitted, had taken, without producing the slightest visible effect, seven grains of opium by the mouth, and three-quarters of a grain of morphia, sub-cutaneously. Some-time later, finding no result followed these measures, four grains of chloral were given internally, and two grains sub-cutaneously. The patient gradually fell into a sound sleep, which continued no less than fourteen hours; on awaking from which, she complained of no sickness or headache, and partook of food readily.

We agree with this correspondent, that we shall probably "hear more of this chloral."

Ice in Accidents from Chloroform.

Dr. Baillie, in the Indian Medical Gazette, of September 1st, says: "In cases of syncope from inhalation of too large a quantity of chloroform, there is no means upon which I should more rely to restore the movements of respiration, than the introduction of a *good sized lump of ice* into the rectum." This is much more easily effected than one would suppose. A little pressure with the ice being made over the sphincter, causes it to enlarge and the ice slips in, followed almost immediately by a prolonged inspiration, the precursor of natural breathing and restoration of the heart's action. This measure with a *small* bit of ice would doubtless answer equally as well with still-born children.

Starchy food for Infants.

The Medical and Surgical Reporter, contains the abstract of a discussion, in the Obstetrical Society of London, on the subject of the disorders of teething children, and the influence thereupon of feeding with starchy substances. Dr. Norton advocated the opinion, that the maladies usually attributed to teething are due to the unphysiological practice of feeding infants on starch foods; that starch was non-digestible by the infant stomach; partly because, from the mode of feeding, the greater portion is passed into the stomach without being rendered soluble by the ptyalin of the saliva. The diseases usually ascribed to teething—diarrhœa, convulsions and bronchitis—rarely occur in a naturally fed child, and on the other hand, they occur sometimes in the first months, when the teeth obviously could exercise no baneful influence. Dr. W. condemns altogether, farinaceous food for infants, and advocates the sole use of cow-milk diluted with water.

Dr. Ballard said that while he was pleased to hear a doctrine supported which he had advocated years ago, that teething was not a cause of infant disease, he did not agree with Dr. W. that starch was such a potent cause of disorder—that though not *per se* harmful, it was not, however, a substance on which infants could be reared. He laid great stress not only upon the importance of sufficient food, but also upon the importance of not allowing the bowels to act oftener than twice in twenty-four hours. This could be effected by the mode of giving the food; by not allowing an infant to suck without obtaining the food it craves, or to suck too hard to obtain it. In either case the bowels became disturbed and diarrhœa was the result. When natural milk in sufficient quantity is supplied, no other food is requisite.

Dr. Phillips considered the practice of giving farinaceous food to infants under six months as physiologically incorrect, as it was practically found to be hurtful; he was not convinced that *no* evils were ever caused by teething, but quite believed that the evil effects ascribed to teething, were oftener caused or increased by improper feeding.

Dr. Routh thought that on no point was there more evidence than against the use of starch for infants before they had teeth; for the assimilation of starch depends on its conversion into sugar by the saliva; but infants secrete no saliva for the first two or three months. Examination of infants dying after the use of starchy food showed that it passed through the alimentary canal unchanged; the alimentary canal of a baby was that of a carnivorous animal; when it was evident that a mother did not supply sufficient nourishment, or could not nurse long, the child should be fed at once with cow's milk and water, to which add lime water and sugar.

The writer has often observed that children fed on a mixture of milk and some farinaceous article, and who were suffering from

indigestion, diarrhœa, etc., were relieved by the addition of salt to the food. When milk alone does not agree, he suggests the substitution of Irish moss for the arrow-root, farina, etc., commonly used. In France the difficulty of rearing children on farinaceous food is recognised, in the fact that at the hospital for infants in Paris, they have a standard preparation known as "marmalade of raw beef," which is largely used in diseases resulting from improper nourishment. It is prepared as follows :

Raw beef.....	gr. 1500.
Powdered sugar.....	" 300.
Chlor. sodium.....	" 23.
Chlor. potassium.....	" 8.
Black pepper.....	" 3.

carefully deprive the meat of fat and sinew, disintegrate in a wooden mortar and add the powders.

The New York Medical Record contains some remarks made by Dr. Rogers before the New York Academy of Medicine, also upon this subject, which are worthy of repetition. He said in no department of medicine, is vagueness of aim, uncertainty of result, and consequent tentative practice more conspicuous, and more disastrous, than in the diarrhœal diseases of infants. We loose our aim by forgetting or never learning the anatomy and physiology of the infant. * * *

The digestive apparatus of the infant, is in some respects like that of the carnivorous animals, arranged for highly animalized and easily assimilable food. This alone should teach us that farinaceous and vegetable substances should not enter the diet of infants. * * * Infants require water, and while their natural food, milk, contains all the water usually demanded ; any accident or disease, which cuts off the accustomed supply of milk, or warm weather increasing greatly perspiration, induces thirst, for which water is the true remedy. * * * Thus it is that diarrhœa from indigestion so often occurs in warm weather to infants both breast and bottle fed, thirst being mistaken for hunger, they take more food than the stomach can dispose of. It is liable also to occur from too great dilution of the milk, the digestive action of the gastric fluids, suffering embarrassment by the very great amount of fluid. * * * The treatment for these cases, is to withhold food and allay the thirst by cold water, without stint or measure—keeping the patient still, and finally, when desire for food returns, allow in moderate quantities, *undiluted* milk. * * *

Following the intestinal disturbance, produced by an attack of diarrhœa from indigestion, the annexed symptoms are oftener met with ; frequent dejections of a greenish, very fluid, and fœtid character, frequently containing portions of undigested casein coagulum, irritable stomach, variable appetite and continual thirst. Emaciation progresses more or less rapidly, and the tongue as well as the anus, indicate by their redness enlarged

papillæ and excoriation, a profound disturbance of the alimentary canal. The case is one of *chronic colitis*, the usual diarrhoea of infancy. The colon as a receiving and absorbing cavity for the excrementitious and alimentary matter poured into it by the small intestines and by its own excretory glands, refuses to perform its functions; consequently, as fast as material is lodged in it from above, it is hurried on through to the rectum and discharged, not only adding to its irritability, but not permitting the absorption of much of the alimentary matter. * * * During the transit of a fresh supply of such material through the diseased colon, the child often has intense febrile heat of skin, and not unfrequently convulsions which terminate life. * * * The treatment is to avoid the cause which set up this inflammation, and to lessen that already existing. This is accomplished by withholding food as much as possible, keeping the desire for drink satisfied with water, and thus secure physiological rest for the colon. * * * This rest is more completely effected by means of anodynes thrown into the rectum. But in their use it must never be forgotten, that neither the rectum nor any other part of the large intestine, can digest; that its function is to absorb, and therefore nothing should be introduced except solutions or substances readily soluble in water; nothing but evil can come from introducing the time-honored gum water, starch etc. Dr. R. prefers to all else, the watery solution of the sulphate of morphia; its dose by the rectum should be *rather less* than by the mouth, and its action thus used is more prompt and effective to relieve tenesmus and irritability of the large intestine. He repeatedly denounced the practice of feeding infants on diluted cow's milk, and urges the use of water and milk separately.

Experience teaches that no medication avails in this class of cases, unless proper nourishment can be supplied, and hence the great importance of this discussion. One remedy, however, should always be mentioned, from its great value in a large proportion of these cases, viz: The nitrate of silver in very small doses, one-sixty-fourth of a grain suspended in mucilage of gum arabic three or four times daily.

This subject may be deemed a trite one, but when we refer to the mortuary statistics and note the very large mortality among infants, mainly from this class of diseases, it looms up in importance and forces from us all the confession there is yet room for great improvement. In this connection it is pertinent to call attention to a communication in the California Medical Gazette, for November, on the subject of

Winslow's Soothing Syrup.

This correspondent says he was called to an infant of six months in a dying condition, evidently from narcotic poisoning. It had taken no medicine except this soothing syrup, of which it

got within ten hours, two doses of one teaspoonful each. An analysis by a skilful chemist of the ten drachms of syrup from which these doses were taken, yielded of morphia and other opium alkaloids, one and fourteen hundredths, or nearly one grain to the ounce of syrup. The directions on each vial are as follows :

“For a child under one month, six to ten drops; three months old, half a teaspoonful; six months and upwards, one teaspoonful three or four times a day.” In dysentery these doses to be repeated every two hours.

Here we have a dose of morphia, equal to ten drops of laudanum, given to a child of three months every two hours, and double the quantity to a child of six months. “But, says one of the ten thousand mothers who use this syrup, I have given it so often with no bad result.” So much the worse for you and your infant, for you will persevere in its use possibly until you get by chance one of these vials which contain a grain of morphia.

Dioscorea Villosa, (Wild Yam.)

In the September number of the St. Louis Medical and Surgical Journal, Dr. C. T. Hart, says, a more extended clinical experience is developing a much broader range of action for the *dioscorea*. For a long time it was confined almost exclusively to the treatment of bilious colic, in which disease it has been regarded as very nearly a specific. More recently it is found to possess equally positive if not so speedy therapeutic value in the management of other diseases. He claims that its particular value is in diseases of the mucous surfaces, “in overcoming irritation of the mucous membrane, attended with pain resulting from spasmodic contraction,” and that it may be administered with benefit in disorders of the mucous membrane of the stomach, bowels, bladder, uterus, or the lining of the ducts opening into the primæviæ; it allays vomiting attending painful gastric irritation, and is superior to any agent in soothing the pain, distress and vomiting attending cancer of the stomach, and in no disease probably is any single remedy more prompt and certain in action than the *dioscorea* in bilious colic. In the painful tenesmus of dysentery it gives prompt relief, and can be most advantageously combined with other remedies in treating this distressing malady. In dysmenorrhœa dependent on irritation of the mucous membrane of the uterine neck, it is a valuable adjunct, if not in every case singly equal to the task of removing the disorder. So, too, with the bladder; dysuria arising from irritation of the neck yields promptly to its use, either simply, or associated with other agents. In short, it may be classed as anodyne and antispasmodic, allaying excitement, relaxing muscular tissue, and in certain cases relieving pain when all preparations of opium fail. This fact, together with its specific and unvarying action

on certain diseased tissues places it among our positive remedies. The preparation in common use is the fluid extract, which contains very nearly, if not all the virtues of the root.

A most valuable remedy is the *dioscorea villosa*, if better acquaintance with it justifies the above eulogy of Dr. Hart.

Vaccino-Phobia.

Recent European Medical Journals have much to say on this subject. Strange to say, Jennerian vaccination had grown into such disrepute in some localities, that the medical profession found it necessary to investigate the evils alleged against this "most beneficent discovery ever permitted to man." The extended discussions and thorough investigations which have consequently taken place, will be productive of great good; the most important result will be, the establishment of the fact that the alleged evils of vaccination arise not from vaccination, as cautiously and conscientiously practised by Jenner himself, but in consequence of the disregard of his rules and precautions, from careless and improper modes of practicing it, want of due care in getting pure vaccine virus, and want of judgment in the selection of subjects operated upon. The truth is, in the words of another, it has become a common idea "that vaccination is to make a sore on the arm, it may be with vaccine virus or it may be with something far different."

When brought back to its original efficiency and safety by the observance of rules easily carried out, public confidence will be re-established and vague ideas which prevail to some extent even among medical men be removed in regard to it. It is worth all the labor expended, if nothing more had been accomplished than to freshen our minds as to well-established facts, and to bring about unity of thought on the important leading points bearing on the subject. One of these is that compulsory vaccination will "stamp out" the small-pox from communities and nations, enforcing it. It has done so in Ireland, and is rapidly doing so in England and Wales.

In the Medical Press and Circular for October, Dr. Cameron says: "In each of the three years, 1838-40, before any provision for gratuitous vaccination, small-pox slew on the average eleven thousand nine hundred and ninety-nine persons in England and Wales. In the next ten years, when it became to some degree obligatory, the average was three thousand three hundred and fifty-one, and with compulsion it is sure rapidly to decrease.

During the ten years ended in 1841, no fewer than fifty-eight thousand and six persons perished from small-pox in Ireland, and three times that number were disfigured for life by the ravages of the disease. During the decade ended in 1851, the deaths from small-pox numbered thirty-eight thousand two hundred and

seventy-five, and in the following decade the deaths amounted to twelve thousand seven hundred and twenty-seven." This brings the time down to 1861, and the following report of the Poor Law Concises of Ireland complete, the record, "The present total cessation of the disease in Ireland has been gradually approached since the compulsory vaccination of children has been enforced under the act of 1863; * * * * the course of decrease has been as follows: In 1864, the number of deaths was eight hundred and fifty-four; in 1865, three hundred and forty-seven; in 1866, one hundred and eighty-seven; in 1867, twenty; in 1868, nineteen; in the first quarter of 1869, three; in the second quarter, none." In several counties and parishes in England where small-pox prevailed, examination by the Government Inspectors, revealed the fact of imperfect vaccination among the population.

Dr. Enver, health officer of Providence, R. I., testifies, that during fourteen years, 16,464 vaccinations were performed in his office, and he issued during this period certificates of vaccination to 16,332 children to enable them to enter the public schools, and has never known or heard of a single case occurring among these, and adds that "the prevalence of small-pox in California and New York is not because vaccination has become less efficacious, but because it is neglected or imperfectly applied." But we need not travel to California, or New York, or Great Britain; we have at our own door an illustration of the truth that this loathsome disease obtains foothold only through that portion of the population who have not only *neglected* vaccination, but *refuse* it when gratuitously tendered. Let the proper authorities make it a penal offense to omit vaccination, and the disease can and will be "stamped out" here also.

The prolonged discussion on the subject of the supposed evils of vaccination, before the Imperial Academy of Medicine of Paris, as reported from the *Union Médicale*, seemed satisfactorily to sustain the following propositions."

1st. That the degeneration of Jennerian vaccine matter, is anything but proved.

2d. That not a single example of vaccinal-syphilis, properly so-called, has been shown to exist.

3d. That the cases of syphilis inoculated by vaccination, are explained by conditions which exonerate completely the vaccine of any impurity!

4th. That a great number of cases of supposed syphilis, supervening on vaccination, leave the most reasonable doubt as to their genuineness.

5th. That other modes of vaccination may be encouraged, although they present no real and sensible advantages over vaccination from arm to arm.

The Editor of the Medical Press and Circular says, "MM. Heim, Taupin and Cullerier, were unable to propagate disease with vaccine lymph, though they tried their best to do so; if the

experiment failed, when *unhealthy* children were selected for the express purpose of testing whether disease could thus be propagated, surely when lymph is taken from healthy children only, and every precaution used to prevent any evil, we cannot credit that vaccination is a common means of inoculating diseases."

But by far the most valuable contribution to this investigation is, *Researches upon "Spurious Vaccination,"* by Joseph Jones, M. D., Prof. of Chemistry in the Medical Department of the University of Louisiana.

This is a thorough examination of the whole subject, from material furnished by the Confederate Army; though the Doctor states "their labors were brought to a sudden and unexpected close, by the disastrous termination of the civil war."

He says, as far as his labors amongst the Confederate troops extended, he was led to attribute the injurious effects of vaccination to the following causes:

1st. Depressed forces, consequent upon fatigue and exposure and poor diet, impoverished, vitiated and scorbutic condition of the blood of the patients vaccinated, or yielding vaccine matter.

2d. The employment of matter from pustules or ulcers, which had deviated from the regular and usual course of development of the vaccine vesicle; such deviation or imperfection in the vaccine disease or pustule being due mainly to previous vaccination, and the existence of some eruptive disease at the time of vaccination, or in other words, the employment of matter from patients who had been previously vaccinated, and who were affected with some skin disease, at the time of the insertion of the vaccine virus.

3d. Dried vaccine lymph or scabs, in which decomposition had been excited by carrying the matter about the person for a length of time, and thus subjecting it to a warm, moist atmosphere.

4th. The mingling of the vaccine virus with that of the small-pox;—matter taken from those who were vaccinated while they were laboring under the action of the poison of small-pox, was capable of producing a modified variola, and comparatively mild disease in the inoculated, and was capable of communicating by effluvia, small-pox is its worst character, to the unprotected.

5th. Dried vaccine lymph or scabs from patients who had suffered with erysipelas during the progress of the vaccine disease, or whose systems were in a depressed state from improper diet, bad ventilation, and the exhalations from typhoid fever, erysipelas, hospital gangrene, pyæmia, and offensive suppurating wounds.

6th. Fresh and dried vaccine lymph and scabs from patients suffering from syphilis, at the time and during the progress of vaccination and the vaccine disease. To each of these propositions Dr. J. devotes a chapter made up chiefly from facts confirmatory of these views, derived not only from his own observa-

tions, but also from the experience of various other surgeons in the Confederate service. In these days, thanks to Jenner, we have no adequate conception of the direful effects of small-pox in former times. A few statistics from these "researches" will bring this out and show very forcibly the importance of pure vaccination. On pages 7 and 8, Dr. J. says: "From authentic documents and accurate calculations, it has been ascertained that *one* in fourteen of all that were born died of small-pox, even after inoculation had been introduced. * * * According to the researches of Black, Lussmileh, and Frank, eight or nine per cent. were carried off; and Duvillard endeavored to show that of one hundred persons, only four reached the age of thirty years without having it; that one in seven or eight who were affected in infancy only two-thirds escaped. Bernonilli believed that not less than fifteen millions of human beings were destroyed by small-pox every twenty-five years." Of Jenner, he says: "By the unaided efforts of a man distinguished as much for his humility, long suffering and perseverance, as for his unsurpassed powers of practical observation, the world has been furnished with the means of completely eradicating this terrible scourge. * * * If the profession had uniformly adhered to the advice and the rules established by the illustrious founder of vaccination, we would have been spared the vast majority of the unfortunate accidents which tend to bring this, the only safe-guard against the small-pox, into disrepute."

Dr. Jones' paper will well repay attentive perusal, and will be found to possess great interest for the general, as well as professional reader. The importance of the whole subject involved, cannot be over-estimated, and all should cordially concur with him in endorsing "any public enactment which would guard in a proper manner the process of vaccination."

Old Remedies.

In glancing through the recent exchanges of this Journal, consisting not only of American, but largely of European medical papers, the writer confesses to a feeling of gratification in finding honorable mention made of many old friends. New remedies meet us on almost every page, and the wonderful virtues and specific results claimed for them are somewhat bewildering. And while bidding young physic God speed as he rushes forward with fiery zeal and energy into unexplored fields, old physic claims indulgence for respecting the wise old maxim, "prove all things and hold fast to that which is good," and for his proneness to "try back" lest perchance the "true scent" may be overrun and lost. Each may be improved by working together respectfully and harmoniously after his own fashion of thought.

The first of these which arrested attention, was turpentine in the treatment of a case of pneumonia as reported by Dr. R. H. Dalton in the "Medical Archives" for October, showing prompt and satisfactory results following the exhibition of 3ij. doses of turpentine alternated with sulph. quinine, in an extreme condition supervening on the sixth day, after the use of calomel, ipecac and morphia in small doses, aided by tr. aconite, etc. The "Compend. of Medical Science," for July, mentions the fact that Prof. Lucke, of Berne, reports a large number of cases which show the salutary action of oil of turpentine in averting infectious and traumatic erysipelas. Prof. Schutzenburger, of Strasburg, has investigated the truth of these statements, and declares that the results obtained by him, accord perfectly with those published by Prof. L. In four cases the disease had been very rapidly cured by turpentine inunctions, the local disease being checked and the temperature reduced from the third to the fifth day of attack. In the cases thus treated the disease neither persisted nor extended from the moment of its invasion."

In the British Medical Journal, for July, a case is reported in which "turpentine saved a patient who was apparently in a hopeless condition from hæmorrhage two days after labor. One ounce of turpentine diffused in mucilage, was injected as high as possible into the rectum; the patient had been previously insensible, with cold and sweating skin, and shrivelling of the surface, but after the turpentine she soon opened her eyes, swallowing became possible, etc."

The September number of Journal Mat. Med., quotes a statement from Archiv. Med. of Belgium, that "ess. turpentine has lately proved the only successful measure against the progress of hospital gangrene. The wounds being well washed, were dressed with lint steeped in turpentine and they very rapidly became healthy and healed."

Ipecacuanna has also recently received a passing notice, not by reason of its virtues as a good honest emetic, emptying the stomach, relaxing the system, breaking up forming congestions, and upsetting things generally; that is an obsolete idea; Dr. David Yandell, of Kentucky, in one of the western journals contributes a paper advocating its great virtues in large doses in dysentery, giving in detail, cases and results; and Dr. Gaillard, of the Richmond and Louisville Journal, editorially remarks in allusion to this paper, "it is certainly strange that a medical agent, which was over two centuries ago first introduced to our section under the name *radix anti dysenterica*, which was long known as the basis of the great Brazilian mode of curing dysentery, and which was enthusiastically adopted by French, English, East Indian and American practitioners should have lapsed into disuetude and neglect." Doubtless because the profession thought they found a better treatment; but in violent epidemic dysentery, which differs from the sporadic as the gentle zephyr

does from the tornado, there is nothing better than the ipecac treatment in a majority of cases. *Digitalis* also is more frequently mentioned than for many years.

Dr. Chesney, in the September number of the Leavenworth Medical Herald, reports two cases of obstinate menorrhagia cured promptly by tincture of digitalis. And in Brathwaites for July, is a quotation from the Lancet, giving Dr. Fendall's testimony as to its value in scarlatina, viz: "When administered early in the fever, the inflammatory action in the glands of the neck subsides gradually, the fever leaves the patient in the usual time, desquamation is very slight, and the chances for chronic nephritis are reduced to a minimum. I was surprised to find infants of a month old, tolerate so much as five drops of the tincture for a dose, given consecutively for three days every three or four hours with advantage. For delirium tremens, it is very efficacious; Dr. Gascoigne, in the British Medical Journal, says, "he has treated eleven cases with this remedy, with complete success. * * * The advantages of it are, a tonic action on the heart, a sedative on the nervous system, a rapid induction of sleep and cessation of delirium. This treatment required but from one to three days, at most. Neither wine, spirits nor beer is allowed, but as much beef-tea as the patient can take, and meat, if fancied."

It is with peculiar gratification that we find *muriate* or *hydrochlorate* of *ammonia* attracting much attention. Many years experience in its use enables the writer to endorse fully all said in its behalf by Dr. Anstie in the treatment of the varied forms of neuralgia; and to add that no remedy has proved more reliable in uterine and various glandular engorgements.

In the Pacific Medical and Surgical Journal, we find that an old friend, *Creosote*, is likely to strip off some of the laurels now worn by its more fashionable kinsman, carbolic acid. Under the caption "carbolic acid and creosote," is as follows: "Though ready to admit that carbolic acid is a valuable remedy, we were never able to discover wherein it so greatly exceeds creosote, and we therefore read with pleasure in the New York Medical Journal, some remarks upon the subject, by Dr. Squibb. * * * He stated that the term carbolic acid, has ordinarily been applied to three substances; phenyl-alcohol, cresyl-alcohol, and xylic alcohol. * * * Successful efforts were made by Mr. Calvert to isolate phenyl-alcohol from the belief that some special advantage would be gained by so doing. Mr. Parks, however, says that the impure acid, that is, the whole group together, is better for all purposes to which he has applied it, than are the crystals. Indeed, the whole group, as found combined in the old-fashioned creosote, is superior to any of the separate alcohols."

But the most remarkable development, is the evident tendency to recall from banishment, the almost forgotten lancet. In the November number of the Richmond and Louisville Medical Journal, Dr. Spillman is bold enough to utter no doubtful note in

behalf of blood-letting as a therapeutic agent. "This, he says, is a subject of deep interest to the profession, and we are glad to see that it is now attracting more attention than it has for some time past. * * * To an entire misconception of the principle on which it acts upon the living economy, and consequent failures resulting from its mis-application, is owing the disrepute attached to it, and the present tenderfootedness of the profession in regard to its employment. * * * Conceding an average advancement in the science and art of medicine for the last quarter of a century that is highly gratifying, in this particular, we are manifestly behind the spirit of the age, and less wise than our fathers were. * * * He who views it as a physical agent operating upon mechanical principals should not employ it, * * * assuming it however to be a vital agent, it at once becomes an intelligible agent, and its employment rests upon "*a priori*" ground. * * * Not as evacuant, but as an alterative, are its effects satisfactorily explicable. * * * The argument against the lancet founded upon its supposed debilitating effects, is an abstraction, and not an induction from a careful observation of facts. On the contrary every physician who has had experience in its employment, and witnessed its magical effects in the speedy subversion of morbid action, appreciates it as an efficient means of encouraging strength. One suddenly attacked either by an inflammatory or congestive form of disease, although greatly prostrated and unable *then* to put forth his strength, is not weak. Take off the weight by which he is overborne for the time and he is still strong. * * * Depressed vital action under the weight of disease, is often mistaken for debility. The intelligent physician will not be misled by the illusion. He will recognize this apparent debility as the sympathetic influence of a dangerous lesion in some vital part. * * * We would have the profession rescued from an injurious prejudice arising from a misconception of its operation as a remedial agent. We would have the physician exercise an intelligent discrimination between depressed vital action from the weight of disease, and direct debility from the exhaustion of the life power. We would have him learn something from the school of nature and improve the moral which spontaneous hæmorrhage so frequently affords when the vis medicatrix naturally disgusted with the stupidity and tardiness of her attendant sets up her own means of cure, and exposes to view the glaring defects of his therapeutics."

Dr. S. supports his views by reference to the result of his treatment in a fatal epidemic of congestive fever, the mortality with bloodletting was in the proportion of one to twenty; without the lancet, one to four.

A discussion of the question, "Has bloodletting fallen into too great disuse?" has recently taken place before a Medical Society in Missouri, and the facts and arguments in favor of the affirmation seem to have had the advantage. Dr. Harris, on the affirm-

ative, states in Medical Archives, for September, that in an epidemic of dysentery which was very fatal, he bled freely, losing six cases in one hundred and eight, while those who refused to bleed, lost one-fourth the patients under their care."

The August number of Medical and Surgical Reporter, contains an abstract of a review of Dr. Brichteau's work on venesection, the main purpose of which is to set forth the objections to the evils of V. S. In taking leave of the subject, Dr. B. says: "The physician ought to know that in certain conditions, the smallest abstraction of blood may produce destructive results, and he ought not to waste the vital fluid as a matter of pure precaution, or as a primary and merely routine step in the treatment of every disease as was the case formerly. * * * If bleeding be, as we love to term it, a heroic remedy, we must remember that it may be also a dangerous one; because it may debilitate the patient and disturb the free and natural evolution of the malady. In certain cases, a bleeding made *apropos* acts marvellously, but its influence is transitory, and we must not have recourse to it too often. Blood letting, far from being banished from medicine, ought to be regarded as one of its most efficacious resources, but one which, surrounded by dangers, must be employed with precaution." It must be acknowledged, that these remarks may be applied with equal force to any remedial agent of positive power.

In the London Medical Times and Gazette, of October 23d, Dr. Ray gives the details of a case of urgent dyspnoea and enlargement of heart, which was immediately relieved by free V. S. To use his words, "the effect of V. S. was charming; heroic as the treatment by blood letting may be, it is undoubtedly an important agent, when yielded with moderation and discretion. * * * Since the present generation, it has been so universally condemned as a spoliative measure that younger surgeons look upon it with horror and disgust. In fact, we have run to such an extreme, that whilst it was the custom in previous years to bleed patients by scores, it is rarely now that one finds the opportunity to practise the operation throughout the whole period of his life. Many a case of asphyxia now-a-days might be saved but for the abhorrence the surgeon feels for depriving his patient of his vital blood; and many a case of apoplexy could have been warded off had timely interference been resorted to in the shape of venesection."

QUARTERLY RECORD OF SURGERY.

COLLATED BY SAM'L LOGAN, M. D., PROF. OF SURGERY, NEW ORLEANS SCHOOL OF MEDICINE.

Exploration of the Female Bladder.

To the Editors of the British Med. Jour.: Sir.—At the conclusion of an interesting paper of Mr. Lund's, in the JOURNAL of July 31, upon "the discovery of a foreign body in the bladder by means of the endoscope, and its subsequent removal by the operation of lithotomy," that gentleman calls attention to the sharp "click," or concussion, which is sometimes to be noted as the female catheter enters or is exploring the bladder, and which "click" is liable to be mistaken for contact with a stone. The conditions necessary for its production are—a full bladder, a hollow instrument, and a sudden arrest in it of the urinary current. I have never heard this phenomenon alluded to before, but have experienced it to my cost.

Some years ago, a young lady was suffering from anomalous nervous symptoms, and, amongst others, she had retention of urine. For a long time the catheter was required, the patient describing a sensation as of "something having fallen in the bladder and stopped up the passage." Now and then it happened that this "something" did not fall, and for that day the urine passed comfortably. Of course I was not surprised, after using the catheter a few times, at striking a calculus. A careful exploration with a solid sound, however, revealed nothing; yet, the very next day, my catheter gave a smart click as I entered the bladder. This happened again and again, and so convinced did I become that the instrument struck and pushed aside a solid substance, that I determined upon dilating the urethra; my forefinger was eventually swept round the interior of the bladder, only to find that viscus perfectly empty and healthy. The case was only of hysteria. The question suggests itself: If the sense of contact with a stone was experienced on any, why not on every occasion of passing the catheter? I believe the explanation to be this: the same condition did not invariably obtain. There was always a full viscus and a hollow tube; but, if the stilette of the catheter fitted accurately, no sound was heard, whereas, when, as often happened, the stilette was not air-tight, and a few drops of urine escaped, the concussion was both heard and felt. Mr. Lund lucidly explains this. I need not repeat his observations.

I am etc.,

Faversham, August 1869.]

EDWARD GARRAWAY.

Treatment of Retention of Urine.

Dr. J. W. S. Gourley, Professor of Clinical Surgery in New York University has invented a new catheter for use in retention

arising from stricture, especially where there is a false passage. This catheter nearly corresponds in size with the English No. 3, and is conical, its point being about equal in diameter to No 1. A groove in the convex side extends about 4 inches, and is bridged over in its last twelfth of an inch so as to form a canal for the reception of the delicate whalebone guide. The catheter eye is on the concave side of the instrument, about three-fourths of an inch from the point and is kept closed by a well-fitted stilette. The curve of the instrument is equal to one-fifth of the circumference of a circle three and a quarter inches in diameter. The urethra is filled with olive oil by a syringe, and an attempt made to introduce a fine-pointed whalebone guide (about one-quarter the diameter of No. 1 catheter, and the length of an ordinary bougie,) the point of which may be made temporarily spiral by immersion in boiling water, and then twisting round a small staff and suddenly cooling it. If its point becomes engaged in a lacuna, it must be withdrawn a little and then pushed on with a rotary movement. If it enters a false passage, it must be kept *in situ* while another is passed by its side. If this also enters the false passage, the same process must be repeated, and so on till one guide does pass the obstruction and enters the bladder. As soon as this is accomplished, the other guides are withdrawn, the far end of the retained guide passed through the canal at the end of the catheter, and the latter carried down the urethra along the guide till its point reaches the stricture. Generally, with slight pressure in the right direction, the catheter passes the stricture and enters the bladder. The guide may be kept in position after the withdrawal of the catheter, and dilatation carried on with successively larger catheters, or by splitting with a Holt's or a Thompson's instrument, modified with the canal for the guide; or internal urethrotomy may be practiced with any urethrotom (modified with the canal,) or the retention catheter may be made available in external urethrotomy, instead of a Syme's staff. (See *Lancet*, June 19.)—(*The Practitioner*.)

Carbolic Acid in Gleet: By T. J. WILLIAMSON, M. D., Cincinnati, O.

THERE is probably no complaint which prostrates the mental and physical energies more effectually than that very formidable disease of the urinary passages termed gleet.

Many of the best pathologists on the continents have written exhaustive papers upon the treatment of gleet to little or no effect, until the introduction of that sovereign remedy, carbolic acid, has brought about an entire change in its management. I have been called upon to prescribe for hundreds of cases, and must confess that I have never found any remedy half so efficacious as it.

CASE.—II. J., age twenty-seven years, pale, sallow, forgetful and despondent, applied to me on May 25th for treatment for gleet. As a constitutional remedy I prescribed :—

R Syr. Iod. Ferri. ℥ij.
 Fld. Ex. Uvae Ursi.
 " " Buchu.
 Syr. Humuli, aa ℥j. M.

Sig.—Teaspoonful four times a day.

When the above became repulsive to the stomach, advised its discontinuance for several days, and directed in lieu of it—

R Syr. Acaciæ.
 Aq. Menth. Pip. aa ℥ii.
 Carbolic Acid. grs. xv. M.

Sig.—Desert spoonful three or four times a day.

And during the entire treatment, in all cases, I prescribed—

R Glycerine, ℥ss.
 Carbolic Acid, grs. viij. M.

Dip a No. 6 bougie in the above, and introduce up the urinary canal three times a day.

Dismissed the patient on 5th of July in perfect health. Have used the local remedy alone in a great many cases, and the effect has been magical.—*Cincinnati Medical Repertory*.

Hydrophobia.

THE following facts in regard to this interesting subject appear in the *Archives Generales de Medicine* (May). They are gathered from statistics furnished by the Veterinary School of Medicine at Lyons. In 1866 and '67, seventy dogs were received for treatment. Fifty-nine presented on entrance all the symptoms of madness; 11, suppose to have been bitten by other rabid animals, went mad after admission.

Of 18 dogs which went mad, where the time of their injury could be definitely fixed, it was found that the period of incubation of hydrophobia varied from 8 to 94 days. When once declared, the malady runs its course in from 2 to 8 days.

Effects of the weather on its production.—Statistics collected from 1858 to 1867 show the following results :

There went mad in	January.....	37	...	May, 46	...	Sept. 26
"	" February.....	51	...	June, 36	...	Oct. 25
"	" March.....	48	...	July, 39	...	Nov. 28
"	" April.....	48	...	Aug, 45	...	Dec. 31

Statistics are also given as to the state of humidity of the atmosphere, and from these the conclusion is reached that neither dryness nor humidity, heat nor cold, seem to exert any influence in the production of hydrophobia.—*Cincinnati Medical Repertory*.

Nature and Treatment of Lupus Erythematosus.

In the *Archiv fur Dermatologie* Dr. MORIZ KOHN has an essay

on this disease, an abstract of which we take from the London *Lancet*.

This affection, which occurs in the healthy and strong, as well as in the strumous, of both sexes, consists of nearly circular spots, of variable size, the centre of which is covered by a thin, dark, yellowish-brown crust, or by cicatricial-like skin, whilst the margin presents a narrow, slightly elevated, bright-red line, beset with yellowish or smutty-brown scales and crusts, or is punctated, and sharply differentiated from the adjoining healthy skin. This form of lupus is undoubtedly developed in the substance of the corium, and occurs upon the cheeks, or upon the bridge of the nose, and occasionally on other parts of the skin of the head, on the palms and palmar surface of the fingers, and on the trunk and arms. It is sometimes accompanied by a remarkable hypertrophy of the sebaceous follicles, with increased discharge of thin secretion, constituting the condition known as *seborrhœa congestiva*. In regard to the treatment of the affection, Kohn considers that internal remedies, as the preparations of iron, arsenic, iodine, and cod-liver oil, are quite sub-ordinate to appropriate and carefully-applied local remedies. Amongst these the following have proved themselves to be in individual cases a certain and positive means of cure:—1. The *spiritus saponatus kalinus* of Von Hebra, which is composed of soft soap held in solution in rectified spirits of wine, with the addition of a little spirit of lavender, and is to be diligently brushed over the affected part. The scabs separate, blood-drops and serum are exuded, dry up to the crust, and on falling off leave a more or less healthy surface. 2. *Liquor potassæ*, in the proportion of one drachm of potash to two drachms of distilled water. 3. *Liquor ammoniæ*. 4. Carbolic, acetic, hydrochloric, chromic, nitric and sulphuric acids; the acetic being perhaps the best. 5. Iodine, especially in the form of tincture, and combined with iodide of potassium and glycerine. 6. Nitrate of silver. 7. Arsenic paste, in the proportion of five grains to two drachms of simple ointment, and fifteen grains of cinnabar. 8. Chloride of zinc, which he has found to be the most efficacious.—*The Medical and Surgical Reporter*.

Ligature of the Aorta in Edinburgh.

On Friday, the 6th inst., Dr. Patrick Heron Watson tied the aorta on account of secondary hæmorrhage from the common iliac artery after ligature. The iliac had been tied nine weeks before with catgut, under the most careful antiseptic precautions, and employing similar after-treatment. In spite of this, internal hæmorrhage set in, distending the iliac fossa and cavity of the pelvis, and escaping partially by the yet unhealed incision.

The artery at the point of ligature was found to be completely divided, but no trace of the catgut ligature was discovered. The

diseased condition of the arterial tunics precluded the application of a ligature to the stump of the iliac. Dr. Watson, therefore, plugged the vessel with his forefinger, took off the Dubois' aortic tourniquet, made an incision in the linea alba, opened the cavity of the abdomen, turned aside the bowels, cut through the mesentery, cleared the aorta half an inch above the bifurcation, and, carrying a ligature round it with a common aneurism needle, secured the vessel with a common silk ligature. He also secured the external and internal iliac branches upon the affected side, so as to prevent recurrent bleeding.

The patient went on well for the first forty-eight hours, but after the sixtieth hour gradually sank, dying sixty-five hours after the operation—living, however, longer than any of the eight recorded cases, except the one of Monteiro, in which the patient survived the operation ten days.

The operation was undertaken merely to prevent inevitable death from hæmorrhage, which must have proved instantly fatal unless the ligature of the aorta had been performed. No further bleeding took place. The limbs regained their temperature after the operation, but before death the left limb (the side on which the iliac had been tied) had sunk in temperature some six degrees below the other, as high, at least, as the knee; above this the temperature was the same on both sides.*—*Medical Press and Journal*.

* Sir A. Cooper first performed this operation in 1817. Since that date it has been done twice by Mr. James, of Exeter, and once by each of the following surgeons—Murray, at the Cape; Monteiro, at Rio; South, in London; Hunter McGuire, of Richmond; and Watson, Edinburgh.

Proposed Improvement in the Trepphine.

Dr. A. F. Magruder, of Sharon, Miss., ends a clinical report in the Richmond and Louisville Medical Journal, with the following admirable suggestion:

“In conclusion, I would suggest to the profession an improvement in the circular trephine. It consists in a circular blade, which should be made to embrace closely the barrel of the trephine and be so arranged with a temper screw as to slide up or down, at pleasure. With this, I propose, after dividing and turning back the flaps more nicely and accurately, to divide the pericranium around the trephine, without the use of the scalpel.”

Mr. Nunneley on Carbolic Acid.

Mr. Nunneley altogether denies, on the ground of the comparison between his own practice and that of his colleagues, that there is any such efficacy in the carbolic acid as has been ascribed to it. We must say, however, that, on the septic-germ theory, the success of the treatment would depend entirely upon the

precise observance of many precautions; and we fancy that some failures, at least, may be attributed to remissness in this respect. On the other hand, we lately heard it remarked, by a very eminent London surgeon, that any new kind of treatment was frequently attended by improved results, for no other reason than that the patients subjected to it were watched and tended with special care and assiduity. Only experience can determine the actual value of carbolic acid; but Mr. Nunneley has fairly thrown down the gauntlet to those who advocate its use, and we trust that his challenge will not remain unanswered. The British Medical Association is desirous of entering upon the paths of scientific inquiry; and it might, with great advantage appoint a committee to investigate this important question.—*The Lancet*, for August, 1869.

Intestinal Puncture in Tympanites.

UNDER the advice of Dr. Fonssagrives, intestinal puncture, as a last resource, has been several times practised at Toulouse, on two patients suffering with tympanites. In the first case, the abdomen formed an immense mass; the patient was perfectly cyanosed and suffocating. An exploring trocar was inserted into the most distended part of the lower umbilical region. The gas escaped so violently as to extinguish the candle. The distension returning the next day, two fresh punctures were made in different places, and gave so much relief that the life of the patient was prolonged four days. In another case six punctures were successively made until the gases were naturally evacuated, and the patient cured.—*L'Un. Med.*—*Western Journal of Medicine*.

New York, August 5th, 1869.

To the Editors of the Medical Gazette.—Gentlemen: In a lecture by Dr. W. H. Van Buren on spermatorrhœa and impotence (published in No. 84 of your journal), he justly alludes to the benefit derived from the use of medicated steel sounds in such diseases. In connection with this subject, I think the following receipt for an ointment may be of service—I have used it with success for over ten years in treating urethritis, etc. It consists of a drachm of sulphate of copper, an ounce of white wax, a drachm of lard, intimately worked together. A few grains of this very tenacious mixture is then held between the index finger and thumb, the sound being rotated in contact with it until it is evenly annointed, it is then oiled, passed into the urethra and allowed to remain there from two to five minutes.

I am yours, respectfully,

H. S. DANIELS.

QUARTERLY RECORD OF OPHTHALMIC AND AURAL SURGERY.

COLLATED BY W. S. MITCHELL, M. D., PROF. OF OPHTHALMIC AND AURAL MEDICINE, NEW ORLEANS SCHOOL OF MEDICINE.

Amaurosis of both Eyes following Epileptiform Attack: By G. E. FOSTER, M. D., Springfield, Mass.

Mr. J. H., aged 35, by birth a Frenchman, by occupation a carpenter. Had always been a healthy man up to January, 1869, when he complained of severe pain in the occipital region, often coursing down the back as far as the third or fifth dorsal vertebra. He consulted a physician, but kept growing worse to the 27th of March, when I was called to see him. At that time he was having daily four (4) epileptiform attacks; bowels very much constipated; tongue covered with a deep yellowish-white coating. Upon the 28th, I gave him a cathartic, which unloaded his bowels thoroughly, and cleared the coat from the tongue in a measure. The attacks then increased to six (6) a day, each attack lasting from twenty minutes to half an hour. I then began with the bromide of potassium gr. vi., fluid extract of valerian ʒij., camphor water ʒi., three times a day, which had little effect upon the attacks; I then doubled the dose of bromide, which began to control the attacks, and on April 20th he was having only two attacks a day. The bromide was then increased to forty-five grains daily, when the attacks ceased; it was then discontinued, while the valerian and camphor were alone used. The appetite improved and the bowels became regular. About three weeks after, I was called to see him again, when he said that for two or three days he had suffered from pain in both eyes, and the vision was hazy; this symptom increased rapidly, and in five days he was totally blind. Upon the 24th of May I applied a blister over each eye, and sprinkled the raw surface with one-third of a grain of sulphate of strychnia, allowing it to remain until the following day, when a fresh application was made. Upon the 3d of June I doubled the amount, and so continued to do each day until I reached five grains over each eye, when he could discern light. The quantity was increased to six grains, and in two and a half days his vision returned, as good as before. He has had no attack since the bromide was stopped, and has returned to work, feeling quite strong. He is now taking tartrate of iron and potash.

Amblyopia cured by Hypodermic Injection of Strychnia.

Dr. Jos. Talko, of Tiflis, reports (Klin. Monatsblatter f. Augenheilkundu, Mai) a very interesting case of amblyopia cured entirely and solely by this method. The doses used were $\frac{1}{12}$ gr. raised

gradually to $\frac{1}{4}$ of a grain of nitrate of strychnia; the injection was made in the neighborhood of the affected eye; it seemed to answer best when done in the supra-orbital region. The cure may be said to have occupied about seven weeks, and was then complete. It is remarkable that such large doses, repeated as often as once a week, produced neither local inconvenience nor constitutional poisoning, with the exception of the trivial symptoms.—*The Practitioner*, for August, 1869.

On the Occurrence of Amaurotic Amblyopia, Long After the Injury, in Cases of Concussion of the Spinal Marrow: By THOMAS WHARTON JONES, F.R.S., Professor of Ophthalmic Medicine and Surgery in University College, London; Ophthalmic Surgeon to the Hospital, etc.

CASE I.—In the early part of last year (1868), my attention was directed to the following case in University College Hospital, under the care of Mr. Erichsen. R. S., a man aged about thirty-five, two years before fell from the top of a house on his back and injured his spine. Since then he suffered from muscular weakness, especially of the right extremities, and was now altogether in a brokendown state of body. His mind and spirits were at the same time much depressed. Three weeks before I saw the man, the sight of his right eye had become so dim that he had a difficulty in making out even the largest letters with it. This failure of the sight was accompanied by photopsia, or an appearance which he compared to "fireworks," before his eyes; by haloes all round the gas lights; and by pains in the region of the right eye and side of the face, extending to the back of the neck. The left eye presented indications of having been, at some former period, affected with iritis. On inquiry, the patient stated that the attack occurred many years before the accident. The sight of the eye in question had not been impaired by the inflammation; but subsequently to the occurrence of the dimness of the right eye, the sight of the left began to fail also, and that in a similar manner. Two or three months before his attention was drawn to the failure of the sight of his right eye, the man found that after reading for five minutes or so the eyes began to water, and that after reading for half an hour he had to give up altogether, in consequence of the occurrence of pain over the eyebrow. The pupil of the right eye contracted freely on exposure to light. Under the ophthalmoscope, I observed in the right eye a bluish whiteness of the optic disc on the side next the temple (apparently on the nasal side), with congestion and blackish discoloration of the retina all round, from granular pigmentous deposit—appearances indicative of degeneration of structure.

CASE II.—In the beginning of June 1868, I was consulted respecting the sight of Mr. O., a gentleman aged forty-eight, who, in November 1866, suffered a shock of the brain and spinal mar-

row from a railway collision, while in a second-class carriage. Since the accident, the patient's energies, both bodily and mental, had become much impaired. He was unable to read longer than five or ten minutes at a time; and it was only with the right eye that he was able to do this. In November 1867—that is, one year after the injury—dimness of the sight of the left eye was first discovered. On examination in June 1868—that is, eighteen months after the injury—I found that the patient could see with the left eye no better than to make out the large letters called Two-line Great Primer. The pupil was still quite natural in its movements. On making an ophthalmoscope exploration, I found the optic disc the seat of vascular injection and granular pigmentous deposit, so that it was of a blackish red hue. The retina, all round the disc, presented a similar discoloration. The centre of the disc, where the retinal trunks emerge, was free from vascular injection and pigmentous deposit, but was unnaturally white. Though Mr. O. could still see distinctly enough with the right eye to make out letters of every size, he could not, as before mentioned, continue to read any length of time with it. Under the ophthalmoscope, I found in the right eye congestion and discoloration of the disc and retina similar to what I found in the left, though in a less advanced stage.

CASE III.—Mr. L., aged thirty-one, suffered a shock of the brain and spinal marrow in a railway collision, while in a second-class carriage, on the 4th of September 1866, and was laid up for three months in consequence. Since then he had found himself unhinged, both bodily and mentally. On the 3d of July 1867, ten months after the injury, he first consulted me respecting his eyes, which had been failing him. He complained of a haze which now and then came over the sight, especially that of the right eye; of inability to exert the eyes as formerly; of pain in his head when he made the attempt; of motes which he saw floating before him; of the appearance, sometimes, as if of flashes of light in the dark; of haloes around the lights; and of undue retention of impressions. Since the patient first consulted me, I have seen him every now and then. Of the several examinations of the eyes which I made, the following is the result of one instituted on the 3d of July of the present year—just one year and ten months from the date of the accident. Both pupils were active, but when the left eye was kept closed, the pupil of the right eye became somewhat more dilated than when both eyes were exposed to the light. There was some external congestion. The right eye being examined under the ophthalmoscope, the optic disc was seen to present on the temporal (apparently nasal) side, a bluish white aspect, and to be opaque and irregular-looking at its circumference all round. Both it and the adjacent retina were in a state of anæmic congestion. Similar appearances, though in a less degree, were observed in the left eye.

CASE IV.—The following is an extract from a newspaper report of a trial at Westminster, on the 25th of June, 1868. The railway accident occurred on the 20th of September 1866:—"The plaintiff, about forty-four years of age, appeared to be in a very nervous and feeble state. Being asleep at the moment of the collision, he had only an indistinct knowledge of a blow on the head. When he recovered consciousness, he found himself on his knees, leaning over on one side. Since the accident, has suffered a constant pain in the head, with numbness and weakness of the left extremities. *Later, there was the symptom of a shadow before the left eye.*"

In the case which I have now related, the failure of sight, it is to be remarked, was not experienced until some considerable time after the injury. This would seem to show that the affection of the eyes arose from a disturbance of the circulation, and consequent impairment of the nutrition, leading slowly to degeneration of structure of the optic nerve and retina.

Inquiry into the nature of the connection between the injury of the spinal marrow, on the one hand; and the affection of the eyes and sight, on the other.—The part of the sympathetic nervous system, on which the healthy circulation in the eye and the due nutrition of the organ depend, has its roots in the spinal marrow in the region of the lower part of the neck and upper part of the back. Thence the nerve fibres pass to the sympathetic in the neck through the hypoglossal nerve and the anterior roots of the two last cervical and two or three uppermost dorsal spinal nerves. From the sympathetic in the neck, the internal carotid plexus arises, and from this are detached fibrils, which, having passed from the cranium into the orbit, enter the eyeball, and are distributed to the muscular walls of the arteries of its internal tunics. Through these fibrils the sympathetic govern the contractions of the walls of the arteries, and so regulates the variations in the width of their calibre. Variations in the width of the arteries of an organ imply, it is to be remembered, modifications in the flow of blood in the part, independently of the general effect of the heart's action. Thus it is that the healthy circulation in the eyes and certain parts of the head, and their due nutrition, depend on the integrity of the sympathetic nerves in the neck.

Lesion of the sympathetic nerves in the neck is followed by such a disturbance of the circulation in the eye, and consequently such changes in the nutritive process, as to lead to degeneration of structure and impairment of function.

In the cases which have been related, the roots of the sympathetic in the neck must necessarily have participated in the injury which the spinal marrow sustained from the concussion in the accidents, on which the failure of sight supervened. The effect has been the disturbance of the circulation in the optic nerves and the internal tunics of the eyes, from which the deteriorated nutrition, causing the impairment of sight, has directly resulted.

That the eyes thus suffer from injury of the sympathetic nerves in the neck, the old experiments of Petit, and the more recent ones of Reid, Claude Bernard, Brown-Séquard, and many others have demonstrated. Section of the sympathetic in the neck of a dog, cat, or rabbit, in the experiments referred to, was followed, by vascular congestion and disturbed nutrition of the eye of the same side, leading, in some cases, to destruction of the organ by penetrating ulceration, or even sloughing, of the cornea, and evacuation of the humors.

The occurrence of inflammatory congestion of the eye after section of the sympathetic in the neck was, in the first edition of my work on *Ophthalmic Medicine and Surgery*, attributed to the consequent paralysis of the walls of the blood-vessels of the eye; and microscopical observations recorded in my essay on the *State of the Blood and the Blood-vessels in Inflammation*, published in 1850, showed, in illustration and corroboration of this view, that section of the ischiatic nerve in the frog, *which contains*, mixed up with the ordinary sensitive and motor fibrils, *the sympathetic filaments* which are distributed to the arteries of the limbs, was followed by dilatation of the arteries, with a fuller and more rapid circulation in the web. The blood in the capillaries and veins being, at the same time, unusually loaded with red corpuscles, the general effect to the naked eye was increased redness, not only of the web, but of the whole limb. An eventual result was opacity of the web, indicating an altered state of nutrition.

In the case related in the first part of this paper, the eyes, though seriously impaired in function, have not suffered disorganization such as was observed in the animals subjected to the experiment of dividing the trunk of the sympathetic in the neck. In the latter cases, the influence of the sympathetic on the circulation in the eye was completely cut off. In the former, the injury to the sympathetic, from the concussion of the spinal marrow, has been such only as to impair and pervert its influence on the circulation in the eye. It is to be remarked that the subjective symptoms which first attract notice in such cases exist for some time without any material alteration of structure being distinctly observable under the ophthalmoscope. It is also to be remarked, in conclusion, that the inability which the patients labored under to exert their sight for any ordinary length of time, which accompanied the amaurotic failure of sight, was different from the common form of asthenopia. The inability to exert the sight was owing, partly, to the irritable congested state of the eyes, and was, partly, one manifestation, among others, of the impaired energy of body—sense and mind generally—which we saw to be a characteristic of all the cases which have been passed under review.—*British Medical Journal*.

QUARTERLY RECORD OF OBSTETRICAL SCIENCE.

COLLATED BY JOSEPH HOLT, M. D., PROF. OBSTETRICS, NEW ORLEANS SCHOOL OF MEDICINE.

Vaginal Hernia: Perforation of Ileum under sudden violence. By J. BIRCHENALL, Esq., Macclesfield.

Mrs. T., aged 63, tall and spare, had had for many years a chronic bronchial affection, accompanied by asthmatic breathing in certain states of weather. She had suffered greatly from this cause during the winter and spring of 1861; and, as her husband, who had been an invalid from hepatic congestion with gouty complications, was going to Harrogate by my direction, she accompanied him. They visited Scarborough on their return, and came home on August the 30th, in excellent health and spirits. On my calling in the evening of the same day to make a friendly inquiry, I found Mrs. T. laid on the couch in great pain. Her husband stated that, after dinner, himself, Mrs. T., and a grown-up daughter, went into the garden, and, in a frolicsome humor, began to chase each other. In the course of their hilarity Mr. T. slipped behind his wife and pressed both hands suddenly and forcibly upon her shoulders, which bent her forwards towards the ground, extorting a shriek, and an exclamation that she was much hurt. She was taken into the house, became faint, and vomited, but had rallied when I called. She was conveyed to bed in great suffering. The pulse was quick and small; the abdomen soft; there was no inguinal or femoral protrusion, but there was tenderness in one spot, a little below the umbilicus, which was referred to as the seat of pain, and could be covered with the tip of the finger. Fomentations were applied, and opiates administered. At ten o'clock there was some abatement of suffering; there had been no return of vomiting, and although the pulse had become sharper and fuller, there was no diffused tenderness, nor any tympanitis. The pain became aggravated, however, shortly after my visit, and my patient passed a night of extreme restlessness. At six the following morning I was summoned in haste. A sudden change had supervened. Mrs. T. had vomited bilious matter when the messenger was despatched, and was dead before I arrived.

I obtained permission to open the body. Mr. T. informed me that his late wife had long been the subject of what I inferred to be vaginal hernia; but, as it had caused her no particular inconvenience, she would not allow him to speak of it even to myself. The body was remarkably plump, considering the age and previous ailments of the deceased. There was a thick layer of adipose matter over the abdominal muscles. The viscera of the abdominal cavity were all healthy, except the ileum; upon this there was a diffused bright scarlet patch indicating recent acute inflammatory action, and radiation from a common centre. Here,

on a careful examination, I detected a minute orifice, into which the point of a blow-pipe could be introduced, and the collapsed gut inflated. No fluid or semi-fluid matter had passed through the perforation. The hernia was indeed in the vagina, but it slipped back readily before the point of the finger.

How far the protrusion might have given rise to the perforation, under a violent compression of the entire alimentary canal, can only be matter of conjecture; but, to my own mind, it did appear at the time to offer the only plausible explanation.—*Brit. Med. Journal.*

Prolapsus of the Cervix Uteri with Eversion of the Vagina in the last Week of Pregnancy, Rupture of the Posterior Portion of the Body of the Uterus during Labor. Recovery of the Patient.—
By JOHN M. WILLEY, M. D., San Francisco.

The following case presents some features so peculiar that they seem to be well worthy of publication.

On the 5th of July last, I went at the request of Dr. W. Elliott to see a Mrs. R., living at the Potrero, whose case Dr. E. had mentioned to me several days previously as being a prolapsus of the uterus of a very unusual kind. I found a prolapsus of the cervix uteri with eversion of the vagina, so as to allow the protrusion of the parts nearly five inches.

The surface of the prolapsus was so darkly congested, as to approach a gangrenous appearance. At the extremity, which was somewhat pointed, was the os uteri, which readily admitted a catheter and through which the presentation, that of the head, could be satisfactorily made out. The whole appearance of this singular condition of things, both in form and proportion, bore a strange resemblance to the male penis in a state of hypertrophy or inflammation. The patient's age, as far as she knew, was well up to forty years, and this was her first pregnancy. As she complained of neither pain or inconvenience, and all attempts to remedy the prolapsus by returning any portion within the pelvis were entirely in vain, the only treatment adopted was to cover the parts with a cloth smeared with lard.

On the following day, in consultation with Dr. W. Carman, as the gangrenous appearance of the prolapsus was still more pronounced, it was concluded to poultice with yeast and flax-seed. This treatment on my visit the day after seemed to have benefited the parts, at least the epithelium was detaching itself in greenish sloughs, leaving a healthy looking though highly vascular mucous membrane beneath.

On the morning of the 9th of July, word was sent that the patient was complaining of pain, and on visiting her I found the liquor flowing freely through the os uteri and that she had occasional but not severe pain in her loins. There was no retraction or diminution of the prolapsed parts and no signs of any dilation of the os.

I regretted that other engagements prevented my remaining with the patient, but this state of things continued till about 7 o'clock in the evening, when, according to the nurse's statement she was taken with strong expulsive pains, and that suddenly she became aware that the child's head was forcing its way *behind* the prolapsed parts which were tilted upwards as it passed.

The labor was accomplished speedily, the placenta following the birth of the child in a few minutes. There was no hæmorrhage or any unusual symptom to mark this singular birth, and when Dr. Carman arrived an hour afterwards he found the prolapsed cervix and everted vagina differing very little from what they were before delivery.

Behind the prolapsus, however, he found a rent from two and a half to three inches long, into which he could readily introduce his fingers, and which, communicating with the cavity of the uterus was evidently the fissure through which the child had passed.

The fissure corresponded with the long axis of the uterus and was about in the median line. Dr. Carman carefully returned the prolapsed parts within the vulva, which he had little trouble to effect, and applied bandage, so that when I arrived which I did shortly after he had left, I had no opportunity of making any examination. The future history of this case may be summed up in a few words. The woman made a perfect recovery, in no longer time than is usual after the most natural labor. She was in fact wholly unconscious of anything out of the way in her case and looked on the matter of the doctors' being so anxious about her state rather in the light of a good joke.

It is to be regretted that no one better calculated to describe the termination of this labor than the nurse was present, but abundant proof of the facts of the case both before and after delivery, exist in the repeated examinations made during eight days by Drs. Elliot and Carman, as also during part of the time by myself.—*California Medical Gazette.*

Reflex Vomiting During Gestation Successfully Treated by Bromide of Potassium.

A young woman, advanced five months in her first pregnancy, came under treatment, having fallen upon the ice, striking upon and bruising her right knee. Shortly after, she felt faint and sick, and lost three or four ounces of blood from the vagina. The second day after the fall she was taken with labor pains. It was at this time that Dr. S. was summoned; on examination found the os undilated, the surrounding parts considerably tender and inflamed. Opiates soon relieved the pains, and she had a good night's rest. The next day severe vomiting occurred, which all ordinary remedies failed to quiet. The patient seemed at death's door; still vomiting; could take nothing into the stomach which

would be retained. Dr. Spear resolved at last to have recourse to bromide of potassium; ordered it in ten grain doses every hour. The relief was immediate; five doses was given. Vomiting was arrested, and the patient rapidly recovered, still going on with her pregnancy as if nothing had occurred.—*Journal of the Gynecological Society of Boston, for August, 1869.*

*Clinical Records from Private Practice—Cases of Double Uterus,**
By EDWARD HALL, M. D., Auburn, New York.

So few opportunities occur, during life, for the observation and diagnosis of double uterus, and as this condition may frequently be the unsuspected cause of grave symptoms, not readily accounted for, by ordinary physical examinations, I trust the following cases will interest the gentlemen of this Association:

Mrs. D., aged thirty-nine, tall, of spare habit, dark complexion, and general good health, the mother of five children, the last two of whom were twins, consulted me for a cough, and prostration of the system. After a few weeks' care, I became aware that the pulmonary symptoms, though grave, were purely sympathetic, and probably from uterine irritation. I requested an examination, and found the usual condition following chronic congestion of the uterus, enlarged fundus, patulous and open neck, and mucous inflammation of the cavity.

After a year of patient care I had the satisfaction of seeing much improvement; but, on account of the continued mucous congestion, I kept up the intra-uterine applications from time to time. On one of these occasions, I discovered a small tumor on the right side. It was about the size of a uterus at three months' pregnancy. As the probe passed without the least obstruction about three inches into the cavity of the organ, and the diseased condition was rapidly improving for some time, I was undecided in regard to the locality of the tumor.

It steadily increased in size, remaining entirely upon the right side, but was not firmly fixed like an ovarian or fibrous tumor, and gradually became nodulated. After six weeks' careful examination, the probe passing further into the cavity at each examination, I began to distinguish through the integuments the form of a foetus, and there was slight motion, which increased during the next four weeks. At the same time I was able to pass the probe into the uterus full five inches, without the slightest pain or inconvenience to the patient. The diagnosis indicates in this case one of two conditions; the open uterus, the perfect outlines of the child through the integuments, and its position entirely on the right side, all indicate extra-uterine foetation. The entire absence of constitutional symptoms made it probable that there was a double uterus.

* Read before the Central New York Medical Association.

After the examinations the patient removed to her new home in New York, and I requested her to place herself under the care of Dr. Peaslee.

The following note from Dr. Peaslee finishes the history of this interesting case :

“ April 5th, 1867.

“ I have seen your patient, and find her case one of intense interest.

“ Every thing denotes a double uterus, and that the foetus is in the right half, while the left half is elongated nearly as much as the right, and the os still patulous, as you describe. The partition or septum probably descends from the fundus to about the internal os, thus leaving most or all of the canal of the cervix free. It may be a case of extra-uterine foetation, but I do not think so.

“ 6th.—During the night the liquor amnii began to come away from the os uteri, which shows that it is not an extra-uterine foetation.”

She was delivered of a six months' child during the night, and I have learned from Dr. P., is again pregnant.

The Bulletin of the Academy of Medicine for May, 1867, contained a brief notice of this case.

Mrs. T., aged forty-five, of spare built, blonde, was first married at the age of nineteen, and had three children during the first nine years; her last pregnancy was fourteen years ago, no miscarriage; nothing peculiar with either pregnancy; she recovered from each labor rapidly. Within a year after her last confinement, she suffered from congestion of the uterus and severe ulceration of the cervix, which lasted some months, but was finally cured. She has been married to her present husband eight years.

Her last menstrual period was June 25th, 1868, and she left home on the 22d of July, for a visit of several months.

On the 11th of August she had a profuse hæmorrhage from the uterus, which came on suddenly, and without any known cause; it lasted about thirty minutes, during which time she lost between four and five pounds of blood. She recovered rapidly, and returned home on the 3d of October.

She began to enlarge, but did not suspect pregnancy.

On the 22d of October she first called on me for advice.

I found her abdomen slightly enlarged, with a discharge from the uterus, and some local irritation. I could distinguish a tumor entirely on the right side, movable, and not painful to the touch through the integuments.

On the 15th of November, I made an examination per vaginam. The vagina was œdematous, the cervix enlarged and patulous, with epithelial sores on the surface.

The cervix was quite open, and the probe passed into the uterus over four inches without any inconvenience.

The uterus was easily moved, but the tumor moved with it.

My recent experience led me to diagnose a double uterus, with the right side impregnated, and as motion became distinct in a few weeks, I was quite positive such was the condition.

About the 20th of December I asked for a consultation, and Dr. Briggs, of Auburn, was invited to see the patient with me. At this time the motion on the right side was almost incessant, accompanied by severe pain, and the tumor on the right side was as large as a four-months' pregnancy. On examination, there was the same appearance of the cervix as described above, but the probe passed into the uterus seven inches, and the wall on the right side was irregular. The tumor, as felt through the integuments, had the usual nodulated surface of an occupied uterus, though somewhat more distinct, and the walls seemed very thin.

There was no hesitation in deciding that this was a case of double or divided uterus.

This condition continued, with great suffering to the patient, the enlargement being confined to the right side, and steadily increasing until the 13th of February, when the waters broke.

I waited for labor-pains until the 15th, supporting the patient in every possible way.

On the 15th I made an examination with the speculum, and could pass the probe from five to six inches into the unoccupied portion of the uterus; then following the septum with the point of the probe down to the internal os, could slide the probe over the surface of the septum into the occupied cavity, and touch the head of the fœtus. By the aid of ergot and gentle manipulations I succeeded in arousing feeble pains, but not enough to expel the fœtus, which I was obliged to remove with long forceps, about sixty hours after the waters broke. Hæmorrhage was severe, and I found it necessary to remove the placenta, and use ergot, ice, etc., persistingly holding the uterus firmly in my hand, through the integuments, for about five hours. There seemed to be no power of contraction in the left side. The right side apparently did its duty, but the left remained quite lax for some days, and the least motion would excite flooding.

With the aid of ergot, nux vomica, etc., it began slowly to resume its tone, and in a few weeks became quite firm and healthy.

The patient made a slow recovery, suffering severely from phlegmasia of the right leg, but is now quite well.

The child appeared to be of seven months, was well formed, but never swallowed. The œsophagus appeared to be entirely closed, yet it lived ten days. The last two days it had severe spasms, which were relieved by the hypodermic syringe.

The literature in regard to this abnormal condition of the uterus is very meagre and unsatisfactory.

Rokitansky says that this septum is occasionally found reaching from fundus to cervix, at times dividing the cavity only

half its depth, and in rare cases extending to the external orifice.

Dr. Rochester, of Buffalo, informed me recently that he found a case in the dissecting-room, where the septum came to the inner os, but knew nothing of the history of the subject.

Rokitansky says that these malformations generally occur associated with various irregularities of other organs.

In regard to pregnancy, he is positive that it may occur in either half, but there is a preponderance in favor of the right side, and that the use of only one set of nerves and vessels gives rise to much distress, abortions, and floodings.

Hodge, in his last work on obstetrics, mentions this deformity, and thinks that this condition may account for the difference in development sometimes noticed in twins, or the retention of one child in the uterus for some week after the other is born, and he refers to similar cases mentioned by Madame Boivin, Tyler Smith, Dr. Churchill, and others. This theory seems much more probable than that of Dr. Duncan, of Edinburgh, who thinks that there are orifices in the decidua, both at the os and near the Fallopian tubes, or of those who think that the decidua only occupies one turn of the uterus for a certain period, leaving the Fallopian tube open.

This last condition does no doubt sometimes occur, as I have known of two cases, where there was no doubt such was the case—one in the practice of Dr. Rochester, of Buffalo, and one in my own—but so rarely does this happen that the exception only proves the rule, that, before the fourth month, the ovum occupies the whole cavity of the uterus.

Todd's "Cyclopædia of Anatomy and Physiology" has a short article on this abnormal development, with some illustrations, which are of interest.—*New York Medical Journal*.

Successful Ovariectomy Performed in the Fourth Month of Pregnancy, after Rupture of the Cyst and Peritonitis.—By HENRY BATEMAN, F. R. C. S., Eng.

OVARIOECTOMY has now succeeded in so many instances that it has fairly taken rank as a capital surgical operation, offering fairer hopes of recovery than amputations of the limbs. Individual cases of this operation have, therefore, scarcely a claim for separate publication unless they either occur in some country where it has still to make its way in general estimation, or in which some special circumstance exists to invest it with unusual interest. Such was the case in the following instance:

A married lady, thirty-six years of age, the mother of eight children, first consulted me on the 23d of last July. On examination, I found her to have an ovarian tumor of the right side,

ascites, pregnancy of about three months' duration, and extensive recto-vaginal protrusion. When twenty years of age she had twins; and, after the delivery of the second child, a tumor was discovered in the right iliac fossa, which at first gave rise to the idea that she had a third child. The mistake was soon discovered, and she had a good recovery. From this time swelling of the abdomen increased very slowly during the next sixteen years, and occasioned almost no disturbance of the system until about a fortnight before my visit. She had then a sudden attack of abdominal pain and tenderness, with sickness, and fever, followed by a marked and rapid increase of the abdominal swelling.

The case was full of peril when I was called in, for although the abdominal tenderness was subsiding, the effusion was increasing. There was considerable difficulty of breathing on lying down, and great restlessness, with scanty and deep-colored urine, abounding in lithates.

Having suggested the propriety of consulting Mr. Spencer Wells, he saw the case with me, and entirely concurred in my diagnosis as to the presence of an ovarian tumor, with free fluid surrounding it in the peritoneal cavity, and depressing the recto-vaginal pouch, and in the existence of pregnancy about the commencement of the fourth month. We also came to the conclusion that the fluid in the peritoneal cavity was ovarian fluid, the sudden attack of pain when I first called in having been caused, in all probability, by the rupture of part of the wall of a multilocular cyst, and the escape of the contents of a large cyst. Pain, tenderness, raised temperature, rapid pulse, dry tongue, and sickness, all pointed to diffused peritonitis, and a condition requiring immediate relief; and we agreed to offer the patient the choice of early tapping the abdomen or removing the ovary, but recommended the latter, notwithstanding the special risks arising from her pregnant condition and the peritonitis.

The patient and her husband consented to the major operation, which was admirably performed by Mr. Spencer Wells, on the 14th of August, in the presence of Dr. Junker, who administered bichloride of methylene, Professor Neugebauer (of Warsaw), Dr. Jagielski, and myself. The tumor, with its contents, and the fluid surrounding it, weight altogether thirty-seven pounds. There was a general injection of the peritoneum, but no recent lymph. There was some omental adhesion, and one vessel there needed a ligature, which was left in the abdomen. The pedicle was secured by a clamp, and fixed outside the wound, which was united by interrupted suture. Mr. Wells was extremely careful to cleanse the peritoneal sac thoroughly of all ovarian fluid, by repeated sponging, before closing the wound.

The operation was performed a little after 6 P. M., and at 9.30 the patient had a pulse beating 96 in the minute, with a moist tongue, and a moderate amount of pain. A scruple of tincture of

opium was injected, and fifteen minims given by the mouth, and citrate of potash given every three hours when thirsty, with ice occasionally. The following morning the skin was moist, the tongue clean, and the pulse 94. Barley-water only was administered as food, and the saline and opiate continued as required. In the evening the pulse rose to 100, and there was a good deal of pain in the course of the anterior crural nerve; but the countenance was good, and the patient cheerful. From this time I never found the pulse higher than 94, and four days after the operation it had fallen to 80.

On the 9th of August, five days after the operation, the sutures were removed by Mr. Wells, in the presence of Dr. Glover, who kindly took charge of the case a fortnight during my absence from town. A large portion of the wound was healed by the first intention.

The bowels were first relieved, after six days, by injection. Just prior to this, and coincidently with a return to solid food, there was a little vomiting. But the pulse remained quite, and, under the gradual action of repeated enemata, the vomiting was relieved. Chicken and other simple animal food was given, and a small quantity of champagne occasionally.

On my return to town, twenty days after the operation, I removed the clamp, with the remnant of the pedicle. There were some flabby granulations at the upper end of the wound and at the site of the pedicle, which required a few applications of nitrate of silver; but the rest of the wound was well healed in about nineteen days.

On the twenty-eighth day she left London for Ramsgate, in good health, and arrived there with very little fatigue.

Sept. 3d.—The patient's husband has just returned from Ramsgate, where he left her well, and on Ramsgate Pier, in a Bath chair.

This case proves,—

1st, That ovariectomy may be performed successfully when pregnancy has advanced to the fourth month, without occasioning abortion.

2dly, That recent peritonitis, consequent on a ruptured cyst and escape of its contents into the abdomen, is no bar to the operation.

3dly, That both these together will not preclude ovariectomy by the hands of a skilful operator, when the patient is calm, trustful, and in all respects amenable to the directions of her medical advisers, as was the case in this instance.—*The Lancet*.

ISLINGTON, Sep. 1869.

MATERIA MEDICA AND THERAPEUTICS.

Carbolic Acid. Condensation of the Properties Use, etc., of Phenol :

By JOHN A. MORTON, M. D., Union City, Tennessee,

So much has been written on phenol, by so many writers, and the publications cover so much space in the various journals, while there have been such few conclusions arrived at, that at present the proper information *pro and con* of its value is rather conglomerate and withheld from a large portion of the profession in this country; hence the necessity of a condensation of this kind, since its discovery by Runge in 1834, which shall be succinct and emphatic. Those who wish to study it more minutely, I respectfully refer to the Official Reports on Cattle Plague, by Wm. Crookes, England; Dr. Angus Smith, also Dr. Kempter, in American Journal of Medical Science; Prof. Conner, of Cincinnati Repertory; various publications by Dr. Grace Calvert, of Manchester; Prof. Clarendon, of Leige; Dr. Swanson, in Medical Times and Gazette; articles by Drs. Caldwell, Newman, Bonner, Prof. Woods, Therapeutics and Pharmacology, U. S. Dispensatory, etc., etc.

I prefer the name *phenol*, as it is not an acid, but belongs to the class of alcohols. Its formula is $C^{26} H^{10} O^2$; while creosote is $C^{24} H^{16} O^1$. There are several modes of preparation, that of Calverts best, requiring high degree of heat, 300° to 400° F., from coal tar distilled with alkalis. There are three different preparations of phenol, the crude or coal tar substance, the liquid or Merck's preparation, the crystalized or Calvert's preparation; the latter being the purest, should be used for medicinal purposes, while the others being much cheaper, should serve for all ordinary and disinfecting purposes.

The characteristics of pure phenol are numerous, distinct and wonderful. Boiling at 370° F., it crystalizes below 60° F., sp. gr., 1062. Has slight affinity for nitric acid, but when combining forms picric acid, and at first the mixture is little pinkish, then a dark purple, finally a black color is produced. While neutral to test-papers it unites freely with the salifiable bases; insoluble in less than ten parts of water, but freely soluble by the addition of alcohol, acetic acid or glycerine. It coagulates albumen, "destroys all low forms of animal and vegetable life;" thereby it stops fermentation, prevents suppuration, arrests putrefaction, and by acting upon *materies morbi*, probably controls contagion to a certain degree, hence, its properties as a disinfectant, anti-septic, anti-zymotic, deoderizer etc. And it probably has some modifying power over miasms of malarious districts, but I have seen no direct experimental results; I am conducting some experiments myself at present, but have progressed

to no satisfactory conclusions so far. Accepting Prof. Salt-bury's investigations as correct, as to the *vegetable parasite* in malarial fever the power of phenol seems plausible.

Physiological effects.—In order to observe its physiological effects on insects, animals etc., I made a great many experiments in 1868, while a private student of Prof. Joseph Jones, of University of Louisiana. I found that phenol fumes were very offensive to insects and animals, and when evaporated in a room, flies, mosquitoes etc., will not inhabit it. When the musqueteo, fly, cricket or roach is closely subjected to its volatile particles, they first exert themselves to escape, then they become stupid, until they are suddenly thrown into convulsions, which are gradually diminished in force until they cease, and succeeded by a comatose state, which ends in death. I drenched a dog with an eight-ounce solution containing one drachm; after some time he vomited some of it, grew very sick and indifferent to kicks and calls, and lay some hours apparently dead, heart beating very slow and feebly, eyes congested, extremities cool, head very warm, but pupils always responding to light. The dog would neither drink nor eat anything, during all day, but at last drank some milk and staggered away; there were some muscular twitchings resembling strychnia, but no active convulsions. The post-mortem examinations of animals killed by inhalation of phenol, are congestion of the vessels of the cerebrum, also the substance of the brain and spinal cord, and the cervical portion of the cord is of a "pinkish blush," the lungs are collapsed and several shades lighter in color than usual; the heart is tense, on being opened, a clot of blood is thrown from both auricle and ventricle (Dr. Kempter, of New York). Injected into the veins, the circulation is instantly arrested, the blood disc is not coagulated, and no alteration in shape or appearance of the globules as detected under the microscope; and the only apparent change consisted in the immobility of the globules. (Dr. C. Crooke's third Report, Cattle Plague, op., page 193.) When phenol is taken into the system, by the stomach in solution, like ordinary alcohols, it passes unchanged through the system, and is thrown off by the lungs, skin and kidneys; the breath for sometime afterwards being of the same odor as phenol, the urine also, and in many cases a blackish color (Conner, Hassell, Crookes). I observed that it is very easy for it to be absorbed by the lungs or skin; if after having subjected myself to its fumes several days in a close office, I would visit the country, I could recognize the odor of phenol, in its elimination from my system by the lungs for several days, though I had taken none by stomach. The proper dose as laid down by Prof. George B. Woods, is one drop, I have taken five drops without any ill effect. I have seen one report of death resulting from swallowing one ounce of phenol. Applied externally, it acts as a mild cauterant, giving a white discoloration to the skin, which soon disappears, leaving pain, red-

ness and swelling, lasting an hour or two. Applied to mucous membranes, it acts more mildly than upon the skin. It has a burning, acid taste.

Phenol has been used very extensively for its preservative properties, and to more accurately illustrate its powers, I here give a tabular statement of experiments made in 1868, after which I will give in brief the experience of others :

Substance.	Am't Sub.	Am't Phenol	Time of Exp.	Remarks on Results.
Diabetic urine.	4 ounces.	Gtts. 2.	7 days.	unchan'd; sweet odor
do do	4 "	None.	7 "	very offensive.
Fresh blood.	2 "	Gtts 5.	21 "	unchang'd; coagulat.
Placenta.	Sol. 12 oz.	" 20.	14 "	no offensive odor.
Putrefied liver.	Sol. 16 oz.	" 20.	30 "	no odor nor decomp.
Ferment'g mucilage	6 ounces.	" 1.	30 "	fermentation check'd
Flour paste.	" "	" 2.	30 "	fresh and unchanged
Mouse.	Grown.	" 10 in vap.	6 weeks.	no change except dried
Frog.	Large.	" 1 on back	6 months.	dry and embalmed.
Grasshoppers, etc.	.....	" 3 vapor.	6 "	" "

The results of the above investigations were very satisfactory, and I still have in my possession the frog, etc., which I experimented upon over six months ago, by simply subjecting them to the volatile particles of a few drops of phenol. It has been well surmised by Prof. George B. Woods, in his Pharmacology, that it was probable, that the ancient Egyptians used its properties in same form for embalming their dead.

There have been some exceedingly interesting experiments with it, recorded in the journals, referring to its preservative powers as used upon the human subject for dissecting purposes, etc. Among the first to conduct experiments with it was Prof. Joseph Jones. I am aware that in the dissecting rooms of the University of Louisiana, the chloride of zinc is used by preference; and the phenol injection has never been tested. For the benefit of those who have not used the phenol for dissecting purposes, I will state that Dr. Jones has preserved entire bodies of animals for four weeks in a warm close room without the least disagreeable odor or any marks of decomposition, (Nashville Jour., Med. and Surg., January 1869.) When Phenol is mixed properly, with injecting matters, it forms what may be called *Jones' Preservative Fluid*, and can be thrown into the blood vessels by the ordinary process. I here give the formula for the amount sufficient for the human body, to fill the smaller vessels.

R Phenol ℥iii Ol. Lini O. i. Ol. Teribenthi O. i. Red Sulph. Hydraz ℥i. Mix the turpentine and linseed oil, add the Phenol, stir them well together, then mix in thoroughly the coloring matters, inject slowly into the arteries. For large vessels. R. Phenol ℥iv, Ol. Teribenthi qt. i. Ol. Lini qt., Tallow ℔ i. and Bees Wax ℔ i. Mix the turpentine and linseed oil, heat carefully and add the tallow and wax, and after the complete melting of the wax,

add the phenol and coloring matter. Stir well and inject while hot into the large arteries and veins. This last injection forces the first into the most minute capillaries, and thus subjects the whole body to the protecting influence of phenol. The first injection should not be allowed to flow out of the arterial system, and it is well to immerse the subject into warm water during the injection. This method is best applied for anatomical dissection and demonstration; but for minute anatomical injections designed to make dried preparations, the mixture of turpentine and linseed oil is not suitable as a vehicle for the coloring matters. Prof. Jones employed Canada Balsam as a reliable vehicle, and the sulphuric ether as a solvent. The Phenol mixes readily with the ether and Canada Balsam, and the coloring matter is well suspended. Tallow and wax may also be dissolved in the balsam by the aid of heat. When an organ thus injected is exposed to the air, the ether evaporates rapidly and the balsam generally dries to a hard material, enclosing the coloring matter and filling up the vessels. The method employed by Dr. Jones is also of great value in the preservation or embalming of bodies for transportation to a great distance, or for any other purpose. When the coloring fluid is properly injected, it tends to impart a life-like appearance to the skin.

As far as the experiments in the University of Nashville were extended, phenol was considered the best of all antiseptics for injection of bodies, and must supercede for dissecting purposes, the chloride of zinc, which discolours the tissues and injures the knives; and the poisonous arsenious acid, which endangers the health if not the lives of those who dissect habitually. (*Nashville Jour. Med. and Surg.*, vol. 11, 1867.) I have known a corpse to be preserved for several days without the least offense, by simply folding a napkin and laying it on the abdomen.

Dr. Caldwell of New York, in an article written to the *Boston Medical Journal* in 1865, mentions a method of preserving bodies as discovered and patented by a Mr. Clark, which he declares to be a perfect mode of embalming.

As exhibited before the Faculty at Bellevue Hospital, it was simply done by washing the corpse with a solution of phenol of a certain strength, which must not be too strong nor too dilute. The proper strength can be determined by making the solution moderately strong, say one part to the hundred, and dipping a portion of the muscular tissue in the solution, and adding the phenol until it gives the tissue its red and natural appearance; and under the microscope you will have the minute structure in all its beauty. Dr. Caldwell witnessed many dissections at Bellevue Hospital, of bodies which had been preserved from one to five months by this mode of embalming. The results were uniformly favorable; "the skin soft and pliant, with epidermis intact; the body rotund and plump, expression good and natural; the joints free and easy; and upon dissecting of the

brain, it was found sound and free from odor, as every other tissue in the human body was, and even the fluids."

There is another very simple and easy process of preserving bodies, which should not be left unmentioned. This process is bathing and wrapping the body in clothing, saturated with this solution of phenol; and injecting the natural cavities or openings of the body—this process is of vital importance to all, and well worthy a fair trial.

As to the power of phenol as an antiseptic or over contagion, not having a great deal of space to discuss it in full, I will only mention the substance of many well authenticated reports, from the pen of previously named gentlemen, and especially Mr. William Crookes, who in the investigations of cattle plague, has thrown much light upon its use, as important in bearing upon the question; its influence as a prophylactic against disease, dependent upon specific living materies morbi. Mr. Crookes' experiments are not alone, as some have been made likewise upon cholera, which like rinderpest is propagated probably by minute living organisms. Dr. Ellis of Bangor says: "I have in many cases allowed whole families to return to cottages, well washed and cleansed with a solution of phenol, in which persons were attacked with the disease." Prof. Clarendon of Leiga, has stated, that out of one hundred and thirty-five persons employed as nurses, to wait upon cholera patients, (where two thousand patients died) only one nurse died; but the nurses were washed over, and their clothes sprinkled with phenol daily. (*Chem. News*, Feb. 1868.)

As a preventative against contagion and typhus, smallpox, scarlatina, rubeola, diphtheria, phenol has been used, but more extended experiments must be employed before a definite opinion of its value in these diseases can be given. The well established destructive influence of the phenol on vaccine lymph, and the strong resemblance of the cattle plague, and the smallpox in the human subject, strengthens the probability of the value of phenol as a prophylactic against smallpox. The advantage of the same fatal effect of phenol upon living organisms, has been still further taken in the treatment of parasitic diseases; but it has been used more extensively in preventing suppuration and thus avoiding in many cases, the delays of union by granulations, and the serious danger of blood poisoning by purulent absorption. Prof. Joseph Jones of New Orleans, in an article published in the *Richmond and Louisville Medical Journal* of Sept. 1868, upon Hospital Gangrene, writes: "That an ointment composed of one part of phenol, mixed with eight parts of simple cerate, is a most valuable stimulant and disinfectant to unhealthy and gangrenous wounds."

The action of phenol as a mild caustic and stimulant, (according to its method of application,) has proved to be of decided therapeutic value in many diseases. Internally the agent has

been administered in a considerable number of affections. Whether or not its internal administration in established cases of so-called *zymotic* diseases, is or can be of any value, is a question admitting of discussion; but the weight of testimony seems to be in favor of its administration, on the ground that while it can do no harm, it can do good by destroying any morbid germs, that may happen to be present in the throat, the œsophagus, in the stomach and in the air passages. If the morbid germs have already gained entrance into the current of circulation, will not phenol destroy such as may come in contact with it, while itself is on its way to be eliminated through the skin, lungs and kidneys? Mr. Crookes, finding that medical and scientific writers were unanimous in the opinion, that small doses of Phenol were not attended with any injurious effects, recommended the addition of small quantities to all the food and water given to the whole of the stock on a farm, sick and healthy. This he considered to have had a two-fold effect. The water given to the cattle was seldom very pure, and the phenol will neutralize any virus of infection, which may happen to be in it; and moreover, after drinking aqueous phenol the breath smells of it. Now he thought it very probable, that as germs of infection enter the system through the mouth, that by thus loading the breath with the antidote, it was reasonable to suppose these germs should be destroyed, before they had an opportunity of doing harm. The vapor of the phenol diffused through the air, will kill large insects; it is reasonable then to presume that it will much more readily destroy microscopic germs, when brought in contact with its vapor during respiration. This subject of internal antiseptics is exceedingly interesting. Having read many of Mr. Crookes' investigations, in 1868, I made some very interesting experiments with Phenol as a remedy, and preventative for a very destructive disease of chickens, known to the people as *chicken-cholera*. I use a strength of two drachms of phenol to a gallon of water, mixed the dough with which they were fed with it and sprinkled the water around where they inhabited and would drink it. To my astonished satisfaction a week afterwards, I received a letter from a gentleman, (Mr. B. P. Nolen of Franklin Tenn.,) who owned a large poultry yard, saying that the cholera had entirely disappeared, and that not a single fowl more had been observed as diseased since two days after he began my experiments; while before the treatment began from five to ten were dying daily. The hope that induced me to believe that Phenol would be effectual in the cholera of the chickens, was drawn from an account of some microscopical examinations made by Dr. Bryant of Ky., in which he claims to have found a small spiral worm, resembling very much the *trachine* of the human body, in the bowels of a fowl.

There is another disease of chickens, known with the country-people, by the common name *Gapes*, because the chicken throws

up his head and opens his mouth very frequently in his exertion to prevent suffocation, and empty his trachea of a small worm, about, from 3 to 5 lines in length, and one line thick, which is lodged in great numbers in the trachea; and the fowl not being able to cough, soon suffocates and dies. I have taken the privilege of giving the name of *Vermitrachitis* to this disease, (as I have been the first to write the result of investigations, not yet published,) because the whole windpipe of the fowl is inflamed and swollen, from the continual irritation resulting from the presence of the worms. I have made some very successful experiments this year at my home, with phenol, as an antiseptic in *Vermitrachitis*, and my satisfaction has been perfect in every case, when I had the pleasure of saving many lots of chickens, while young. The Phenol I think does not cure, but counteracts the developement of worms, from infusoria taken in by inspiration.

Phenol as a Remedy.—In hospitals and city practice, Phenol has been very extensively used for its remedial properties, but in country practice it is comparatively never used; hence the necessity of an accurate and reliable condensation of, especially this branch of the subject. To merely indicate the extensive use that has been made of it, I give a list of some of the affections in which it has been employed. It was used first by some physicians in Manchester, England, for obstinate vomiting, irritable stomach, etc. It has been used in compound fractures and dislocations, abscesses, large and small, acute and chronic, carbuncles, stumps, caries, necrosis of bone, sinuses and fistulæ, ulcers, healthy and unhealthy, syphilitic and indolent; lupus, cancer, burns, snake-bites, pyæmia, hospital gangrene, chancroid, porrigo, tooth and ear-ache, flatulence; as a gargle, lotion, unguent, wash by inhalation, cauterant—and in fact it is hardly possible to say how extensive it has been used. Acting in so many various ways as an antiseptic, caustic, local stimulant, astringent and sedative, the range of its therapeutic applications, must necessarily be excessively wide. There is probably not a single surgical affection without suppuration in which phenol has not been extensively employed. In the various skin diseases originated by animal or vegetable parasites, especially in scabies and favoses, phenol has been used with the result of destroying the parasite. As locally applied to mucous membranes or surfaces, either simple or congested, in a state of inflammation, or that of suppuration or ulceration, advantage is taken of the local stimulant or caustic effect, together with its antiseptic properties; and the same advantage is taken in its local application to the throat in diphtheria; and to the face in small-pox, the pitting of which it is held, may be prevented by its application in solution or ointment. In the treatment of hæmorrhoids phenol was found of service by Mr. Turner, of Manchester, the contents of the pile being coagulated and the wall corrugated. I have used it myself with success in several cases, and especially in cases where there was much pain and

irritation, which it relieved after a few applications as an ointment. There has been much said of it being beneficial in phthisis, but I have had no experience with it myself; Dr. Conner, of Cincinnati, speaks of using it, especially after the development of cavities, where its internal use has been of decided benefit. Prof. Louget used it in his own case; and Dr. Labori, of the Convalescence Hospital, at Vincennes, reports having "administered it to between two and three hundred patients in different stages of the disease, with *most favorable results*, the aqueous solution being taken partly by the stomach, and partly by inhalation in a pulverized state." Dr. Wolf, of Aberdeen, says: "as an adjuvant to cod-liver oil, it is beneficial in all stages of phthisis; but it is eminently useful in allaying hæmoptysis, and irritation, and arresting profuse secretion of chronic bronchitis and cavities in the lungs of laryngeal phthisis, and of colliquative sweats. Dr. Godfrey has found the internal use of phenol of great benefit in cases of gastric irritability, especially when produced by miasma, or sewerage exhalations. I have found benefit likewise in irritable stomach and ejection of food immediately after meals, by administering one or two drops in solution just before each meal. Also, it is well spoken of as beneficial in the vomiting of pregnancy. It is a valued remedy in flatulence of old age depending upon imperfect digestion, and in diarrhœa resulting from bad drainage.

The method of employing phenol, must of course be determined by the circumstances of the case. A vehicle can be made for it of almost anything, it being very soluble in alcohol, ether, acetic acid, glycerine, water and the oils. For internal use the aqueous solution will ordinarily be preferred; a saturated aqueous solution may be employed as a local application, or if too mild in its action, a stronger alcoholic or glycerine solution may be substituted. When the caustic effect is desired, it should be used undiluted. An ointment of the strength of a half drachm to one ounce of cerate is found very convenient.

Dr. Bottini, of Havana, has been experimenting with phenol, and reports numerous observations of gangrenous wounds, of diffuse phlegmon, and of necrosis, which visibly improved under action of the solution. If a solution, he says, containing one per cent. be injected into the bladder, he has obtained of obstinate cystitis unexpected cures. The injections arrest putrifaction of urine which has stagnated in the bladder under the influence of hypertrophy of the prostate or of the contractions of the urethra. —*American Journal of Medical Science*, for October, 1868.

I have cured a case of chronic catarrh, with offensive breath by simply allowing the patient to inhale from a solution in a bottle through the nostrils. Dr. Kempter also has been successful in the treatment of nasal diseases with phenol by the use of steam spray. Phenol has been extensively employed by those physicians who claim to be specialists in diseases of the air-passages and

lungs. French physicians have used it with much success. Dr. Kempter has used it in scarlatina, with offensive breath, as a mouth-wash and gargle with benefit. A strong solution in combination with potassa is admirable as a gargle in all diseases of the throat; also in diphtheria, through its astringent and stimulating properties. In simple tonsillitis it is good; and combined with chlorate of potassa acts beneficially in cases of mercurial salivation.

In the New York Lunatic Asylum, Dr. John P. Gray has cured sluggishness of the bowels accompanied with bad breath, by administering a drachm of the solution of the house standard (one grain to the ounce) three times daily. Dr. Gray has relieved dyspepsia accompanied with acid eructations and formation of gas and with continual pain in the stomach. A solution of fifteen grains to the ounce cleans the surface of an ulcer off at once, and by stimulating healthy granulations the ulcer is induced to heal very rapidly. Prof. Chaillé, of New Orleans, has used it with a degree of satisfaction in the Charity Hospital for bad sores; and if there is a tendency to their formation, by sponging the part with a solution of phenol, the sores are prevented. By its injection into cavities of all kinds, abscesses, etc., which are discharging foetid matter, a laudable pus and healthy action is set up. Prof. Frank. Hawthorne, of University of Louisiana, has used a solution of phenol as an injecting fluid into abscesses, cavities, etc., with benefit in the Charity Hospital, preventing supuration, thereby checking the drain from a debilitated constitution. Several cases of dissection-wounds are recorded as successfully treated by phenol. "Burning heat" is relieved by application of a two grain solution in diseases resembling erysipelas. As a dentrifice with myrrh or some aromatic, it removes the odor arising from carious teeth. It is used very extensively in Europe and America externally also. Prof. Lister speaks of it highly; with the solution applied upon wounds with cloths, or in the form of putty with which the parts are covered. In either case it is a gentle stimulant, kills those organisms which come in contact with it, acts as a deoderizer and prevents flies from coming near, to breed maggots. It is very serviceable also in gunshot wounds; Prof. Jones has treated gunshot wounds with an ointment of it, with the greatest satisfaction. Prof. Paul F. Eve, of St. Louis, uses phenol in combination with collodion after all of his operations and always secures adhesion by first intention. In those wounds which are inclined to be phagædenic, sloughing, gangrenous and cancerous, I know of no remedy more apt to alter the condition of the sore. In foetid perspirations from the axilla or feet a solution or ointment is recommended. Phenol in ointment destroy "*acaries scabii*, *pediculi capitis*, *et id genus omne*." In diseases of the scalp also, like the skin, Dr. Jones, of New Orleans, has used it satisfactorily and successfully. The glycerolate of phenol is a good mixture which may be used instead of

cerate and any odor of the phenol may be overcome by the addition of a little oil of lemon. Dr. John P. Gray also speaks of its efficacy in scarlatina anginosa. He also cured foetid discharges from the ear and nostrils with a two grain solution. Dr. Bissell, of New York, also treats scarlatina with it, and "don't want to treat scarlatina without phenol." Dr. Bissell has used it also, as a vermifuge, and has not been disappointed; "the axyrus vermicularis may be destroyed at once by the use of an injection of phenol." It has been remarked that it is a remedy that closely concerns a sick room; and I think it is: for nearly every physician has experienced the unpleasant odor emanating from the sick room. This may be entirely overcome by the proper use of a solution of phenol, one ounce to the gallon of water, which may be sprinkled about the room with impunity. A few table-spoonsful at a time will be sufficient to disinfect and doderize a large room. In cases of labor, where a woman is lying for a long while, a few drops sprinkled upon a napkin and applied to the exterior genitalia, will remove the unpleasant purgent odor which accompanies the lochial discharge, thus exempting the patient from a great source of discomfort. A small quantity of the solution put into a chamber before used destroys the odor which would otherwise occur; wherever it has been introduced with this object in view it has received the approval of all interested.

Phenol properly combined with iodine, forms the carbolate of iodine; and with the the tincture converts in into a colorless fluid, being transparent, which enables the physician to apply it with impunity and without leaving characteristic paint over the part to which it is applied. This combination is not only a powerful anti-septic, but is more efficacious than pure iodine. It may be used in all forms of injections, gargles, lotions etc. In sore throat, ozæna, abscess in the ear, sores etc. This preparation is a sovereign remedy; for while it is a disinfecting agent, it also modifies the mucous membranes, and causes all local sensibility to disappear. The formula usually employed by Dr. Percy Boulton, is the comp. tinct. iodinii, grains, iii; pure phenol, gtt. vi; glycerine, grains xxx; aqua distill, grains 500. Mix the phenol and glycerine; the iodine and water; then the two solutions.

A combination of this kind has long been a favorite remedy of Prof. Joseph Jones, and as his student, I have yet to record a case which under his treatment with it did not prove entirely satisfactory. He has used it especially in injections for syphilis in women, leucorrhæa, inflammation of the womb, prolapsus uteri, in all diseases of the womb and genital organs. In gonorrhœa and gleet I can speak from my own experience. I can assert solutions of the proper strength to be suited to all stages of inflammation of the urethra. In the first stages it acts as a caustic and astringent, in strong solution, very much like the nitrate of silver; in second stage, in a weaker solution, by its mild astringent and sedative properties it induces healthy actions; in more

chronic stages, by a solution just mild enough to be slightly stimulating, circulation is invited to the part and healthy granulation is set up.

The efficacy of phenal in syphilis, has not been digested to any great extent in the journals; the weight of testimony within my own observations is greatly in its favor. Especially when its powers have been used in syphilitic ulcers and chancroid, from cases observed in the private practice of my distinguished preceptor, Prof. Joseph Jones, now of the University of Louisiana. He has used it extensively as a wash, and as an ointment; the former from five to thirty drops to the ounce of water, the latter from twenty to sixty drops to the ounce of cerate.

Out of a great many cases, I will mention only a few. Mrs. P., primary syphilis, six or eight chancres upon the walls of the labia; a wash of a twenty drop solution healed the chancres. Mercury was given internally in this case.—Mr. H., a locksmith, primary, of three weeks standing, had phymosis from his birth, had several considerable hard chancres under the prepuce which could be reached only by the nozzle of the syringe; he used the twenty drop solution as an injection under the prepuce, and in three weeks the chancres were healed and Mr. H. was ready for the operation for phymosis.

Josephine L., a seamstress, suffering secondary symptoms, and inflammation of the os-uteri, a mercurial course and injection of Phenol one fluid drachm, pulv. alum, one drachm, water, sixteen ounces was used, in a few weeks all symptoms were gone.—Mrs. H., a seamstress, tertiary syphilis, had upon the front of her foreleg a number of ulcers, phagadænic and sloughing, and the bone was thought to be implicated. She was under treatment for a year, without benefit, finally Prof. Jones tried Phenol in an ointment of one drachm to the ounce of cerate, dressed three times daily. At the end of ten days, to our surprise, Mrs. H., presented herself with the ulcers almost healed; in three weeks there only remained the cicatrices of those large and terrible venereal ulcers.

One more case and I am done: I observed it in the New Orleans Charity Hospital, while assigned as a student to Ward No. 8, bed, 16, and under that noble and world-renowned Surgeon, Prof. Warren Stone. The patient was cured of primary syphilis four years ago, and was then suffering from a tertiary attack of periostitis of the skull, and in addition, had a large phagadænic ulcer on the under side of his glans penis, which had spread, in resistance to all local and constitutional treatment, for six weeks, from the size of a pea to one and a half inches square. At this juncture I requested Dr. Stone, Jr., Chief of Clinic, to allow me to use a solution of phenol; five drops to the ounce was used, and in twelve hours the character of the ulcer was changed. I took a careful history of the case, at the time, which was submitted to the Chief of Clinic. I conclude this paper with an extract taken at the

bedside. "After the first few applications there was a change in the whole surfaces and edges of the ulcer; the pus which was always found in the cavity of the ulcer was seen no more; the ugly irregular surface began to wear a healthy granulating appearance. The glans penis which for a long while had been very anæmic pale and without any sensation, now began to become red, natural and very sensitive; in fact the whole of the parts surrounding the chaneroid which had previously been so insensible to the touch on account of poor circulation, now became very sensitive and sore, so as to be exceedingly painful, even to a drop of water; I attributed this sensitiveness to a renewal of circulation in the part; and as a favorable action of the remedy. In a few days the ulcer was in an excellent condition to take on adhesive action, it was clean and healthy, granulations were in abundance. Normal sensation began to return; the edges of the ulcer began gradually to fill towards each other, until a thin layer of epithelial covering was thrown across from both sides, over the entire surface, which gradually thickened and became perfect and healthy skin."

MEDICAL NEWS AND MISCELLANEOUS.

To the Trustees and Faculties of the Medical Colleges in the United States.

THE undersigned Committee, in accordance with the instructions of the Convention of Delegates from Medical Colleges, held in Cincinnati, in May 1866, respectfully and earnestly invite you to send Delegates to a *Convention* to be held in the City of Washington, on *Friday* preceding the first Tuesday in May 1870; for the purpose of considering all subjects connected with Medical College education, and procuring the co-operation of the Schools in carrying out a uniform system of medical instruction.

It is very desirable that every regular Medical College in this country should be represented in the Convention.

N. S. DAVIS.

S. D. GROSS.

GEO. C. BLACKMAN.

F. DONALDSON.

Committee.

Chicago, Ill., Dec. 22d, 1869.

An Appeal to Congress.

THE Medical Society of the District of Columbia, at their meeting held 12th January, 1870, appointed Drs. Lovejoy, Toner and Lieberman, a committee to draft a statement of the facts explaining the status of the Medical Society of the District of

Columbia, with reference to the proposed action of Congress for the repeal of its charter. That committee made the following report, which was adopted and ordered to be published :

AN APPEAL.

The Medical Society of the District of Columbia, which has existed in this community for more than half a century, having been lately assailed, and a resolution, founded upon statements evidently derived from sources at once malacious and false, having been introduced into the Senate of the United States to repeal its charter, in the following terms:—"Resolved, That the Committee on the District of Columbia be directed to consider the expediency of repealing the charter of the Medical Society of the District of Columbia, and of such other legislation as may be necessary in order to secure for medical practitioners in the District of Columbia equal rights and opportunities without distinction of color;"—this Society deem it respectful and due to its own dignity to give a public explanation of its actions in order that it may be exonerated, in the opinion of all just men, from the charges which have been brought against it by designing and interested enemies.

It has been charged that this Society has, with prejudice and a tyrannical exercise of the powers conferred on it by its charter, refused to certain individuals chartered rights which they could equitably demand.

The falsity of this charge will be apparent upon an examination of the provisions of the charter.

1. The charter requires that the Society shall elect a board of examiners "whose duty it shall be to grant licenses to such medical and chirurgical gentlemen as they may, upon a full examination, judge qualified to practice the medical and chirurgical arts, or as may produce a diploma from some respectable medical college or society."

2. It imposes a penalty upon any one venturing to practice without such a license.

3. It forbids the society "in anywise to regulate the practice of medical or chirurgical attendance on such persons as may need those services, or to establish or fix a tariff of charges for medical attendance or advice, or to interfere, in any way, with charges or fees for medical attendance or advice."

4. The privilege is given by the same instrument to the society that its members "MAY elect into their body such medical and chirurgical practitioners, within the District of Columbia, as they may deem qualified to become members of the society."

With respect to the first of these—that is, license after examination—nearly every respectable practitioner of medicine who has settled in the District desirous of fulfilling the requirements of the law, has applied for and received the license from the board of examiners, and in no case has this license been refused to a

person passing the required examination. Even the colored physicians who now complain have received their license immediately after examination and payment of the fee invariable paid by all applicants for license. The board has granted the license in every instance, without any distinction or restriction when the proper qualifications have been ascertained to exist.

2. The Society has on very rare occasions deemed it expedient to have the legal penalty inflicted upon persons for practising without the aforesaid license, and then only for the protection of the public against notorious and swindling quacks.

3. The Society has never, in a single instance, by forbidding consultations or restricting them in any way, infringed that provision of the charter forbidding interference with "the regulation of the practice of medical attendance." But, debarred from the exercise of these powers in the Society, the medical practitioners of this District many years ago organized a voluntary society, known as the Medical Association of the District of Columbia, and in that association have made regulations with respect to medical ethics, including the regulation of consultations, fees, etc. The regulations of this voluntary association have been confounded with the acts of the Society, and the latter body is thus made to bear the credit or the odium of regulations not properly chargeable to it. The existence of this second body, the Medical Association, is not fully known by the public or some of the profession as it should be, and in the charges made against the society in Congress there was a marked evidence of this confusion.

4. By reference to the fourth provision of the charter, as stated above, it will be seen that membership is not a right compulsory on the society to grant when applied for, and that the society has in fact, in the exercise of its legitimate right on more than one occasion, rejected the candidates for membership; and it has thus refused those individuals, not as a right which they could demand, but a benefit which it was optional with the society to bestow.

Every man, be he Chinaman, Choctaw or African, whether he may think proper to practice hydropathy, sorcery, homœopathy, clairvoyance, or any form of quackery, has a right under the law to demand of the board of examiners a license or certificate on presenting a diploma from a respectable medical college or passing the required examination. It would therefore be absurd to insist that every licentiate should necessarily be entitled to the privileges of membership, which, briefly stated, consist of social reunion for medical discussion, and the election of officers annually.

The Medical Society for a series of years has held weekly meetings for the discussion of medical subjects, and these meetings have been of the nature of social reunions, and of course each member has exercised his right in the selection of his associates.

To question his right to vote in the election of members as he may deem proper would be an unwarrantable infringement of his franchise.

Shall the existence of the Society be threatened because a majority of its members have held and acted upon the belief that the admission of certain person as members would render the attendance upon these meetings so distasteful as to ensure their cessation, and thus, far from benefitting the complainants, destroy the usefulness of the Society?

In fine, the license from the Board of examiners convey all the *rights* which this Society can confer. The privilege of membership is merely a privilege of association and social re-union, and it is for entrance into this social re-union that the friends of the colored physician are clamorous, and not only threaten to destroy the Society unless admitted, but have boldly demanded, in public meeting, that the charter be taken away from the Society; and among the prime movers in this attempt to effect the destruction of the Society are certain individuals who have settled amongst us of late, have received the courtesy of its members; yet, while retaining their membership, they are plotting its destruction.

It will thus be seen that the charter secures to all medical practitioners, without distinction, rights dependent only upon certain normal and intellectual qualifications, and that the Society has never desired nor attempted to interfere with or deny those rights. It will also be seen that it leaves the question of membership as one of optional and social association.

This Society does therefore most solemnly, in the presence of the public, protest against a tyrannical attempt to punish it for the exercise of an undoubted and legitimate right, and in the absence of any express legislation to meet the emergency, the opposition to which might then be justly chargeable to the Society as a misdemeanor.

J. W. H. LOVEJOY, M. D.,

C. H. LIEBERMANN, M. D.,

J. M. TONER, M. D.

Committee.

W. P. JOHNSTON, M. D.,

Pres't Med. Society, D. C.

WM. LEE, M. D.

Secretary Med. Society, D. C.

EDITORIAL AND MISCELLANEOUS.

WITH this number the New Orleans Journal of Medicine begins the third year of its present series and its present editorial control. The editors have just grounds for self-congratulation in the liberal manner in which they have been upheld by contributions both of scientific, and of the pecuniary pabulum necessary for the support of a voluminous and expensive periodical. We trust that we shall not draw upon ourselves any accusations of vanity if we venture to congratulate our readers also upon the success of our efforts to supply a journal suited to the wants of the profession. We do not expect to relax our exertions to this end but rather to increase them. In the meantime we solicit from our subscribers and friends a continuance of their active support. This is all that we require to enable us to go on with our work cheerfully and unremittingly.

Our advertising column will sufficiently advise our readers with respect to our subscription terms, while with regard to contributions upon professional subjects, other points of merit being considered equal, those which are most brief and to the point will receive preference in the order of insertion.

We beg to express for our readers and our beneficent and noble profession the wish that the New Year may bring unbroken prosperity and the fruition of every hope looking to elevation and improvement.

The Case of Passed Assistant Surgeon, CHARLES L. GREEN. U. S. Navy.

The resignation of passed assistant surgeon Green, of the U. S. Navy, which occurred recently, was occasioned by circumstances that cannot fail to appeal to the profession and public generally, in the earnest spirit which the subject deserves.

Dr. Green was brought before a general court-martial as the accused, charged with "disobeying the lawful orders of his superior officer." This consisted in dissenting with the captain of the ship, in his opinion regarding a seaman on the sick list, whom the Doctor considered unable to perform his duties, while the former believing to the contrary, ordered the Doctor to remove the man from the sick list.

This is the substance of three grave charges, upon which the Doctor was tried by a court composed of "line" or commanding officers, and was sentenced to be suspended from rank and pay for two years, and to be publicly reprimanded by the Honorable Secretary of the Navy, the order reprimanding him to be read on board all vessels in commission, before the officers and men, and at all naval stations. Secretary Robeson, of course, guided by the counsels of line officers, approved of the sentence, but with a show of charity, remitted the suspension from rank and pay.

Is it not grave to contemplate the tyranny to which enlisted men and officers of the navy are exposed in virtue of this decision? The commanding officer is elevated to the unheard of position of medical inspector. Whenever through dislike or animosity toward any one on board ship, he chooses to exert his authority, there is no protection for officer or man, and no appeal which can protect the sick or wounded, unless the vessel should be in company with another vessel commanded by an officer higher in rank, as seldom happens at sea.

The Doctor is denied the intelligent exercise of his professional prerogative, while the captain is clothed with power, in the ignorant exercise of which he may, as often happens, while habitually drunk or laboring under delirium tremens, issue orders from the seclusion of his cabin, affecting the sick in the most inhuman and cruel manner.

By common consent of the civilized world, to the medical gentlemen is accorded the unquestioned right and privilege of disposing, in civil and military cases of persons who come under their charge in such manner as they may deem best suited to their physical condition. If such confidence is not reposed in them on no account should they be employed. To whom, particularly on board ship, shall the disposition of a patient be referred when the Doctors' opinion is treated with contempt?

The indorsement of the action of the court by the Secretary of the Navy, and the action of the court itself, is another conclusive evidence of the tyrannical disregard and contempt with which staff-officers of the navy are treated by the "line."

The medical corps in this instance has suffered, and sufficiently illustrates the rule of which "line" officers of the navy are so fond, that there is no right or privilege treated by medical officers which the "line" are bound to respect.

Notwithstanding the shadowy attempt at apology by the Honorable Secretary of the Navy, Surgeon Green has acted the noble part, and severed his connection with a service where education is at a discount, and the medical profession is provided with no shield from the rude assaults of ignorant commanding officers.

Verily such service will forever forbid young men entering it, who have any professional pride or decent self-respect.

The American Sunday School Worker.

We have received the prospectus of a monthly journal to be published at St. Louis, December 1st, by J. W. McIntyre, No. 4 South Fifth Street, under supervision of a committee, representing the Evangelical denominations. Its sphere is the promotion of the religious education of the young in the Family, Sanctuary, Sabbath and Day School, Asylums, &c., in all sections and denominations alike.

It will have a lesson system with expository notes, illustrations, &c., with much other matter ready prepared for the use of teachers, parents, and others.

The Editorial Committee consists of leading ministers of different denominations. The publisher, would no doubt, gladly answer all inquiries.

Dry Earth System.

Dry Earth Closets and Commodes, (Moule's English Patent exclusively secured in this country, by the Earth Closet Company of Hartford, Connecticut.)

From a professional stand we greet with pleasure, and hope our professional brethren will join with us in favoring the introduction of the Dry Earth System in our midst. No question can have a higher import in our opinion, and have a larger share in ameliorating the sanitary condition of the City of New Orleans, and materially add to its commercial prosperity. No other city on the North American continent should more earnestly grasp the opportunity as a God send—for no other city stands more in need of it. The absence of effective surface draining, the reflux of the water upon our sinks, during high water, and after heavy rains—and above all the too perceptible stench arising therefrom in our hot and sultry months, invite our epidemic scourges, at least facilitate them in their dreadful work of depopulation and impoverishment. Before such a stern yet truthful picture, all prejudices against their system should disappear.

The apparatuses of the Company are manufactured at Hartford, Conn., by the Earth Closet Company. A visit at the office of our friend, Dr. Castellanos, the Agent of the Company for their State, and a well known practitioner and fellow townsman, satisfies us that they could not be exalted, either in finish or in the mechanical device that discharges the earth. The Commode constitutes a very convenient, portable piece of furniture—the design is very similar to that of the ordinary night chair—and it will certainly find its place in the patient's bed chamber. We have purchased one and have every reason to be satisfied with it. The Closets made from designs in the Agent's possession, will readily be appreciated by religious communities, public institutions and hospitals. We cheerfully recommend them to the public.

Corrections and Additions to the Article "Vital Statistics of New Orleans."

PAGE 12, the numbers "18,250,000,000" and 5,000,000," should read 18,250,000 and 5,000.

Facts obtained since the completion of the original manuscript

of this article, in July 1869, authorize the following additions to the "Historical Table, No. 1," page 22, viz :

Total Mortality of	Civil Population in	1862	was	6278.
"	"	"	"	1863 " 7171.
"	"	"	"	1864 " 8498.
"	"	"	"	1865 " 6817.
"	"	"	"	1866 " 7905.
"	"	"	"	1869 " 6001.

The general evidence of intelligent citizens is to the effect that the civil population in the years 1862-1865 was very much diminished. Dr. Elisha Harris, U. S. Sanitary Commission, estimated it in 1865 at not less than 200,000. Dr. J. J. Woodward, U. S. A. Surgeon General's Office, writes: "As to the civil population of New Orleans during the period referred to, I have myself no doubt at all that, the army of camp followers, sutlers, traders, etc., far exceeded the number of fugitives, and should not be surprised if, in fact, the civil population were shown to be really larger than before the war, but I know of no reliable reports bearing on the case."

S. E. CHAILLÉ.

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Dean of the Faculty, Glass Box 1778.

N. B.—For further information apply to the Dean.

[Cot 1—tf.]

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APRIL, 1870.

ORIGINAL COMMUNICATIONS.

ART. I.—*Sanitary Legislation in New Orleans*: By S. M. BEMISS, M. D., Professor of the Theory and Practice of Medicine, University of La. (Being a continuation of the "Study of the Sanitary History and Condition of New Orleans.")* ✓

ALL accumulations of facts in reference to the aggregate prevalence of diseases, or the circumstances which immediately attend their prevalence, are practically valueless unless advantage is taken of this knowledge in bringing about wise and co-operative measures for their prevention or extirpation. When such facts are obtained and acted upon with scientific intelligence, it is precisely as when in war the sagacious General gains all the information possible to be obtained respecting his opponents, in order that he may better direct his attack or defense.

When men ascribed diseases to planetary influence, they, of course, believed themselves impotent to arrest them, and either passively endured, saying with the Turk, "God wills it!" or they undertook to propitiate an angry Deity by rites and observances which were themselves the occasional means of propagating the pestilences they were designed to arrest. Such was true of the order of "Flagellants" of the middle ages. But knowledge has increased, both as it respects the learned professions and its popular diffusion, and the study of the natural history of diseases has shown that each one of a large number of

* See article on "Vital Statistics of New Orleans," by Prof. Chaillé, in the January No. of the New Orleans Journal of Medicine.

the most fatal among them has a cause peculiar and specific to itself. For example, the cause, or active principle, which produces small-pox does not produce measles or scarlet fever, nor the latter the former.

This is true of all that class of "General Diseases," "A." (New Nomenclature of Diseases) in the division of my colleague, which prove such sources of terror and fatality to our species. The essential cause which produces one, does not, as a matter of hap-hazard, give rise to another or any other of these affections, but each one reproduces its kind with as much uniformity as the seeds of plants. It does, however, occur that in many instances the essential causes of two of these affections may become conjoined either in the atmosphere, or after being received into the system and thus give rise to hybrid attacks of sickness, presenting the characteristics in different proportions of the combined diseases. These are important points in the study or application of the principles of sanitary science, for they show, first, that the essential causes of disease do not interchange character or effects with each other; second, that they may become combined, and therefore, that the poisons which produce pestilential diseases, sometimes exhibit such affinity for each other as to enter into combination. This latter fact is sufficient to illustrate the probability amounting very nearly to absolute demonstration that they may also combine with various volatile emanations floating in the atmosphere and make them hot beds for their multiplication or vehicles for their diffusion.

Sanitary science therefore rests upon the truth of the postulate that disease is not a mysterious entity occurring by chance, or even by special dispensations of the Deity, to be charmed away by incantations, or prevented by imploring direct Providential interference, but that it results from the action of physical agents, which are themselves susceptible of destruction and extermination by human efforts, or, sad to say, of increased multiplication by neglect, or misdirected measures. So soon as we learn to realize that the "death in the pot" is from herbs of our own culture or plucking, we appreciate all efforts to point out those which are pernicious and the means of destroying their poison or avoiding them.

But even if the wisest of sanitary teachers should point out to the residents of any populous city, the best means of preventing sickness, only a portion of the population would be sufficiently intelligent and thoughtful to apply their precepts to their own protection. The less intelligent, the thoughtless or reckless, or the selfish, would disregard all advice and by their misconduct would entail disease upon both themselves and their fellow-citizens. This fact affords complete justification of the establishment of sanitary codes and their compulsory enforcement, although involving inconvenience, expense and some sacrifice of individual liberty.

The following is an abstract of the present sanitary laws of this city, compiled from Mr. Leovy's "laws and ordinances of New Orleans:"

An Act of the Legislature establishes a Board of Health.

Section 1. Authorizes to locate quarantine grounds.

Section 2. Defines construction of the Board; to consist of nine "competent citizens of the State," "selected with reference to their known zeal in favor of a quarantine system," commissioned by the Governor for one year, and required to make oath "well and truly to enforce and comply with the provisions of an act entitled, "An act to establish quarantine for the protection of the State."

Section 3. Shall meet once a month from first of November to first of June, and once a week, or oftener at will, from first of June to first of November.

Sections 4 and 5, prescribe plan of organization, and enact that four members shall constitute a quorum for all business except "contract for building."

The remaining sections relate to the performance of quarantine enactments, except the following provisions:

Part of section 6 gives the Board of Health "power to remove or cause to be removed, any substance which they may deem detrimental to the health of the City of New Orleans, and the Commissioners of the Streets shall execute their orders whenever not in conflict with the ordinances of the city, or the laws of the State; to pass and enforce sanitary ordinances for the city, pro-

vided the same are approved by the Council and published as city ordinances ; to define the duties of officers employed by them and impose additional duties to officers appointed under this act; to issue warrants to any constable, police officer or sheriff in the State to apprehend and remove such person or persons as cannot be otherwise subjected to the provisions of this act, or who shall have violated the same."

Part of section 14 enacts "That every person who shall violate the provisions of this act by refusing or neglecting to obey or comply with any order, prohibition or regulation made by the Board of Health, in the exercise of the powers herein conferred, shall be guilty of a misdemeanor, punishable by fine and imprisonment, at the discretion of the court by which the offender shall be tried."

The following are the Health ordinances of the City of New Orleans :

ART. 1. All persons are forbidden and are prohibited from allowing, keeping, throwing, dropping or depositing any ordure, excrement, offal, filth, manure, foul and offensive matter, stagnant, corrupt or putrid water, or any shells, hay, straw, kitchen stuff, paper, cloth, or any substance of any kind which may be offensive to the smell or injurious to health, in any yard, lot, room or building, or on any banquette, street, alley, wharf, levee or any public place, or in any gutter, drain or canal within the city, under a fine of not less than five dollars or more than twenty-five dollars for each and every offence: *Provided*, that ordinary refuse, sweepings and kitchen offal may be deposited in tubs, boxes, barrels, buckets or other suitable receptacles, to be placed on the outside of the banquettes, convenient to be taken off by the offal carts on each morning, by six o'clock in summer and by eight o'clock in the winter.

A city ordinance makes it an offence and nuisance "to keep or let remain within yards or private alleys, any of the articles or things mentioned in the preceding section, more than twenty-four hours."

Very often dead poultry or spoiled meat is thrown into the boxes to be placed on the banquettes, and it is not infrequently the case that the passing of the garbage carts is rendered extremely offensive from this cause. The drivers of city carts should be furnished with close boxes for such material as this, or with deoderizers to destroy the offensive smell. Either pro-

cess may be adopted with very little expense, and the city in this manner avoid the almost daily violation, on her own part, of Section 14 of the Health Ordinance.

ART 2. It shall not be lawful for any person or persons to deposit in any part of the city except at the nuisance wharf, any ordure, excrement, offal or filth; or any putrid, foul or offensive matters; or any refuse or noxious substances, under a penalty of not less than five dollars nor more than twenty-five dollars.

ART. 3. No person shall impede or obstruct the passage or flow of water of any gutter, ditch, pipe or drain in this city, or in any manner dam the same, under a penalty of not less than five dollars nor more than twenty-five dollars.

Under the head of "offences and nuisances," Articles 5 and 6, page 327 Leovy, it is ordered that "no person shall suffer stagnant water to remain on his premises, or in any lot owned by him; and any person who shall fail, after sixty days' notice given to him by the street commissioner, to fill up his said lot or premises so as to cause the water to run off in the streets and not on the adjacent lots, shall be fined in the sums hereinafter mentioned. It shall be unlawful to fill up, or partly fill up, any lot with manure or other offensive or deleterious matter."

Article 5 should be construed to apply to standing water under the floors of houses as well as in open lots. The carelessness of builders, in constructing houses in such a manner that free ventilation is not secured beneath them, and without any attention to raising the surface within the foundations, so as to prevent standing pools of water, should become a subject of sanitary legislation and inspection. Almost every citizen knows that many of what are regarded first class residences in this city, are chargeable with one or both of these defects—defects which unquestionably add an important item to the sum total of bad health in our population. The gaseous emanations which perpetually escape from a soil so largely impregnated with organic substances as this, should have free access to the open air and not be forcibly driven through the floors of houses into the apartments of their occupants.

It is probable that very few, even of the most intelligent citizens of New Orleans, have ever brought to their minds a full realization of the important changes produced in the air we breathe by the surface water of this city. Unfortunately we are obliged to include under this term the water in all our drainage canals and gutters as well as that standing upon lots or streets.

It may aid in giving some idea of our constant exposure to deleterious agents from this source by mentioning the fact that the method of administering medicines by inhalation is known to be one of the most certain and efficient modes of securing their effects. The means physicians adopt for the introduction of medicines by inhalation are as follows: first, they dissolve or infuse the drug in water, then they volatilize the water by one of two methods. They either vaporize it by heat, and direct their patients to inhale the vapor, or they reduce the water to spray by jetting a stream against a solid surface and their patient breathe this spray. The reeking poisons which enter into the composition of the gutter water of this city gain admission to our lungs (at the rate of more than one thousand doses per hour,) by both of these processes.

For the accomplishment of the former mode the heat of an almost tropical sun amply suffices, but added to this, we see daily and in numerous places, persons busily employed scooping up the filthy water and throwing it over the streets, to prevent dust, and also in cutting down the growing plants, as if intentionally striving by every known means to secure the utmost possible degree of vaporization of the surface water. To the future healthfulness of the city, the abandonment of the present system of open sewerage is a paramount necessity.

The drainage of localities situated lower than the immediately adjacent water-level, as is this city in respect to the Mississippi river, must always involve difficulties proportionate to the height to which the water is to be lifted and the amount to be removed. The obstacles to the drainage of this city, in the direction of Lake Pontchartrain, are, first: that the fall is so slight that the larger sewers or debouching canals require machinery to propel their sewerage, however fluid, in the direction of their outlets; second: that the storm tides of the lake reach a level several feet higher than the surface upon which a large portion of the city is built. When the lake is fenced out by dykes, sufficiently high and strong, this latter evil will be remedied. Great care should be exercised, first: that the levee along the city front be kept as free as possible of leaks, next, that the river

end of the system of sewers be constructed with special reference to the collection of this leakage water. But another important defect in our present system of drainage is, that the gutters have no adaptation in point of capacity to the rain falls of this locality. I do not suppose that it is possible with a surface as nearly flat as the site of this city and a rain-fall occasionally amounting to six inches in twenty-four hours, to construct sewers which would at all times prevent the streets from being flooded, but we all know that a great improvement can and should be effected, in so far as our principle streets are concerned at least.* From the present pecuniary condition of New Orleans, the day is probably very distant, when a system of covered sewers and canals will be constructed, but it seems to me no less the duty of the sanitary writer to urge the wisdom and necessity of measures so well calculated to benefit her population and enhance her prosperity.

ART. 4. It shall not be lawful for any person or persons to keep a hog or hogs within the pound limits of this city, nor permit the same to run at large, under the penalty of not less than five dollars nor more than twenty-five dollars for each and every offence.

ART. 5. No owner of any animal afflicted with the glanders, or with any contagious distemper or disease, shall suffer the same to roam at large in any street, road or way, or any wharf or levee, or in any public place whatever, under a penalty of twenty-five dollars for each and every offence.

An ordinance which should be strictly enforced. The interdependence between epizootics and epidemics is undoubtedly at times well marked, but how often or to what extent the association exists, remains to be shown.

ART. 6. Whenever any horse, mule, cow or any other animal shall die in the city, it shall be the duty of the owner or keeper thereof to have it forthwith removed to properly located and authorized factories, where it may be disposed of for useful purposes, under proper regulations; or to bury the same, or cause the same to be buried beyond the precincts of the city in a hole of sufficient depth; or to cast the same, or cause the same to be cast into the nuisance boats, and from thence into the middle of the river at least a quarter of a mile below the lower limits of the

* If the recent reports from Ismaeli are correct, that the introduction of water and planting of trees have effected such a change in its climatic conditions that abundant showers have occurred in a heretofore rainless region, why should we not hope to witness an exactly opposite change in regard to the amount of our rain-fall by draining the swamps and reducing the extent of evaporating surface in the immediate vicinity of the city? Man may yet learn that even the elements show pliability to his efforts for their control when guided by the highest exercise of wisdom.

third district; and every person failing to comply with the provisions hereof within eighteen hours after the death of such animal, shall be fined not less than twenty-five nor more than one hundred dollars for each and every such offence.

ART. 7. No person shall, without authority from the board of health, dig up, disinter, exhume or disentomb any human body, or the remains thereof, or shall knowingly aid therein or be accessory thereto, under the penalty of one hundred dollars for each and every offence.

ART. 8. No person, shall, without a permit from the board of health, introduce from beyond the limits of the city, from the 1st of May to the 31st of October, any human body, or the remains thereof, under a penalty of one hundred dollars for each and every offence.

ART. 9. No poisonous medicine, drug, preparation or substance shall be held for sale, or sold, or given or administered, except for lawful purposes and with proper motives, and by persons competent to give the directions and precautions as to the use thereof; nor shall any bottle, box, parcel or receptacle thereof be delivered to any person, unless the same is marked "Poison" in large and legible letters, nor under any circumstances to any person who may be suspected, presumed or judged capable or desirous of using it for any illegal or improper purpose, under a penalty of not less than ten dollars nor more than one hundred dollars for each and every offence.

ART. 10. No person shall adulterate, in a manner calculated to injure health, whether for the purpose of sale or otherwise, any substance intended for food, or any liquor intended for drink, or any drug or medicine, or shall offer for sale any such adulterated substance, under a penalty of not less than five dollars nor more than fifty dollars for each and every offence.

A competent chemist ought to be employed by the city, whose analyses and official reports should be sufficient grounds for legal process against those who violate these ordinances. I think the military bureaux ordinance, page 135, Leovy, is not enforced.

ART. 11. No person shall sell, or offer for sale, or expose in any public place, or keep in any private place, any blown, stale, decaying, putrid or unwholesome provisions, or tainted meat or fish, or any impure or unsound food, or any food or drink in a condition calculated to be injurious to health, or any animal which has died of disease, or which proves to have been diseased when killed, under a penalty of not less than twenty-five dollars nor more than one hundred dollars.

ART. 12. Every new privy hereafter constructed shall be at least three feet deep, built of bricks laid in cement from at least three feet below the surface, and raised at least one foot above the surface of the ground, and shall be so situated and constructed

as not to have an issue on any street or public way, and shall not be placed within three feet of any public street or highway, under a penalty of not less than fifty dollars nor more than one hundred dollars for each and every offence.

The provisions of this ordinance do not meet the requirements of a city topographically situated like New Orleans. A great deal of the territory within the city limits is liable to be inundated to a depth exceeding "one foot" when the contents of privy vaults must of necessity become diffused through the surface water. Whilst this kind of accident is not so likely to prejudice health here, as in localities where the drinking water is obtained from wells, it is yet so greatly to be deprecated as to call for either some improved plan of construction or more stringent regulations as to cleansing privies.

ART. 13. Whenever any vault or privy is filled up to within one foot of the level of the soil or surface of the ground, with fetid or offensive matter, or whenever any privy shall be in a condition injurious to the public health, the owner, tenant or occupant of the house, building or lot on which said privy may be found, shall cause the same to be emptied during the night, between the hours of 11½ P. M. and 4 o'clock A. M.; and the ordure therefrom to be carried to the nuisance wharf and thrown into the river, under a penalty of not less than ten dollars nor more than one hundred dollars for each and every offence, and for each and every day the offence shall be continued after forty-eight hours' notice shall have been given by or on behalf of the board of health to comply with the provisions hereof.

(ART. 1. That article No. 544, revised ordinances of the city, section 13, of the ordinance relative to nuisances and offences, be so amended as to read as follows, viz: Whenever any vault or privy, or hole, is filled to within one foot of the level of the soil or surface of the ground with foetid or offensive matter, or whenever the street commissioner shall consider any privy in a situation injurious to public health, the owners, tenants or occupants of the house, building or lots, on which said privy may be found, shall cause the same to be emptied during the night, as follows, viz: From the 15th of October to the 15th of March, between the hours of 12 o'clock P. M. and 5 o'clock A. M., and from the 15th of March to the 15th October, between the hours of 12 o'clock P. M. and 4 o'clock A. M.

ART. 2. That article No. 545 of said revised ordinances, section 14 of said ordinance, relative to offences and nuisances, be so amended so as to read as follows, viz: It shall not be lawful to convey through any street or other public highway of this city any night soil or feculent matter, except during the night, and within the following hours, viz: from the 15th October to

the 15th of March, between the hours of 12 o'clock P. M. and 5 o'clock A. M., from the 15th March to the 15th of October, between the hours of 12 o'clock P. M. and 4 o'clock A. M., and then only in tubs or covered carts, so made as not to be in the least offensive to public decency or injurious to public health; such carts or tubs to be made under the supervision of the street commissioner. And it is herein made the duty of all policemen and watchmen to arrest and conduct to the police pound all carts or other vehicles found in contravention to this ordinance, and further to arrest and conduct to any of the lockups or jails of the city the driver or drivers of such carts, or any other person having charge of the same, who, upon conviction shall pay a penalty of five dollars for each offence, the same to be recoverable before any recorder of the district wherever the contravention may take place, or before any court of competent jurisdiction, for the benefit of the city.)

ART. 14. It shall not be lawful to convey, through any street or public way of the city, or any suburb, any wagon, cart or other vehicle, or any close-stool, tub or other vehicle containing ordure, excrement or other foul and offensive matters, except during the night, between the hours of 11½ P. M. and 4 A. M., and in a manner neither offensive nor injurious to the public health, under a penalty of twenty-five dollars for each and every offence.

The vidangeurs should be compelled by law to deodorize the contents of the privies before taking them through the streets. This can be quickly and economically done with the ordinary carbolic acid, of commerce. A layer of dry earth or pounded charcoal over the top of each tub or box will accomplish the same end. The Chinese are accustomed to mix fat marl with their night soil in the "proportion of one-third to two-thirds and this compost kneaded into cakes becomes an article of commerce" as a fertilizing agent, and is said to be altogether deprived of its offensive odor. Whatever of sanitary wisdom this ancient people possess is the offspring of centuries of experience of the densest population of earth and should be estimated as of some value, at least.

Charcoal absorbs nearly seventy-six times its bulk of certain offensive gases and thus becomes an excellent filterer of air as well as of water. I own that simply deodorizing matter admitted to be injurious to health does not of necessity imply its "disinfection," that is, the destruction of its deleterious principle; but as the action of carbolic acid is to put a stop to processes of fermentation or putrefaction, and that of dry earth and char-

coal used as recommended above, is to absorb gases and thus filter the air evolved by the putrefying substance, there is reason to believe that each one of them is both a deodorizer and a disinfectant, in all cases where its application can reach the offensive material as perfectly as in cleaning privies, stables, market stalls, etc.

ART. 15. It shall be the duty of all street commissioners and deputy street commissioners, of all police officers and of all who have police authority in this city, to aid in the execution and enforcement of the provisions of this ordinance, by giving the necessary information to the board of health, by serving process or by making arrests under the authority of the said board; and the said commissioners and officers shall have full authority to enter premises under the said authority, for the purpose of making necessary examinations.

ART. 16. All persons wilfully obstructing or resisting commissioners or officers authorized by the Board of Health to enter premises for the purpose of examining the same, shall be fined not less than twenty-five dollars nor more than one hundred dollars for each and every offence.

Article 16 should be amended by inserting after the word "examining," 'cleansing or disinfecting.'

ART. 17. It shall be the duty of all citizens to lodge complaints with the board of health, with the street commissioners, or with the deputy commissioners, with police officers, or with any person exercising police authority in this city, of any violations of this ordinance; and for the facilitation of their doing so, books of complaint shall be kept at the office of the board of health, and at the office of each health officer appointed by the board of health. And it shall be the duty of the board of health and of each health officer to keep books in which complaints may be duly and formally entered. And the penalty for each and every violation of this section shall not be less than fifty dollars nor more than one hundred dollars.

ART. 18. No vessel, boat or water craft of any kind, and no railroad car, truck, wagon, cart or other vehicle, and no person or persons, by any means of carriage or conveyance, shall introduce within the limits of the city from beyond them, any hides, bones, peltry, rags, or other articles of any description whatever calculated to produce infection, or in any way to injure or endanger health, under a penalty of not less than twenty-five dollars nor more than one hundred dollars; *Provided*, That the board of health shall be empowered to give a permit for the introduction of hides, bones, peltry and rags, in cases in which they shall be satisfied that no noxious effects are to be feared from them.

ART. 19. No distiller, brewer or keeper of any workshop,

manufactory or laboratory, no warehouseman, soapboiler, chandler or other person whatever, shall have, keep, suffer, use, produce or store within the limits of the city, any foul, fetid, putrid or offensive or injurious matters, substances, odors or vapors calculated to injure the public health, under a penalty of not less than twenty-five dollars nor more than one hundred dollars for each and every offence; *Provided*, That the board of health shall have power to close all such places, and to stop all such business, the continuance of which would endanger the public health.

ART. 20. Any person who shall perform the private offices of nature in public places so as to tend to create a public nuisance, or to effect the public health and salubrity, shall be fined not less than five dollars nor more than twenty-five dollars for each and every offence.

ART. 21. The coroner or coroners, or his or their deputies, and all physicians, surgeons, obstetricians, general practitioners, apothecaries, chemists, druggists, midwives, and all persons who use or pretend to use medical, obstetrical or surgical means for the treatment of disease, disorder or lesion, are hereby required, each, any or all of them, as the case may be, to report to the board of health, either directly or through the street commissioner, or his deputies, or through the police authorities, or otherwise, as may be the most convenient and certain, all cases of contagious, infectious or epidemiological diseases, especially such as cholera, yellow fever, trichiniasis, typhus or ship fever, small-pox, varioloid, or any of the grades of such diseases, or any others that may be at any time specified by the board of health, or may be generally adjudged contagious or infectious, and may come under their treatment, cognizance or supervision. And the penalty for offending against this provision shall not be less than fifty dollars nor more than one hundred dollars for each and every offence; *Provided*, That when any disease shall have been declared epidemic, the board of health may declare it unnecessary to report further cases, and to declare the provisions of this section void as to such disease.

ART. 22. All ship-masters, ship surgeons, hotel-keepers, boarding-house keepers, lodging-house keepers and all other housekeepers, public and private, shall be required to give immediate information to the board of health of all contagious, infectious or epidemiological diseases which may have occurred within their cognizance. And in default of giving the requisite information, shall be fined not less than twenty-five dollars nor more than one hundred dollars for each and every offence.

ART. 23. No patient laboring under any contagious, infectious or other disease dangerous to the public health, shall be removed from one place to another without the permission of the board of health.

ART. 24. The board of health shall provide means of vaccinating all applicants, either at their homes or appointed public

places, as may be most convenient; and it is hereby declared the duty of all good citizens to see themselves and their children, and all other persons, secured from the ravages of this loathsome disease, by having immediate recourse to this beneficent prophylactic.

(Vaccination and Commissioner of.)

(ART. 1. *Resolved*, That the mayor of the city shall appoint a reputable physician from each ward, whose duty it shall be, under the direction of the commissioner of vaccination, to vaccinate all unprotected persons in the district to which he may be assigned, either at their residences or at the office of said physician, as circumstances may determine, free of charge to all who choose to avail themselves of his services.

ART. 2. The district physicians, accompanied by a police officer, to assist them in finding places under direction of the commissioner, shall go from house to house and examine every individual, as far as possible, and vaccinate those who have not been already secured from the infections of smallpox. This course shall be continued systematically a portion of each day until there is no further necessity for so doing.

ART. 3. Each individual vaccinated shall be re-examined on the seventh, eighth or ninth day after, by said physician, to ascertain the success of the operation; and if not complete, he shall repeat the vaccination; and each vaccinating physician thus employed by the city shall keep a correct catalogue of the names, age, sex and residence of every person vaccinated, and make weekly returns of the same to the commissioner of vaccination.

ART. 4. Each and every assistant thus appointed, as far as practicable, shall keep himself fully supplied with pure, fresh vaccine virus; and when medical practitioners of the city require it of them, they shall furnish it, if to be spared, without charge.

ART. 5. The commissioner of vaccination is expected to make frequent personal examination of all the districts thus assigned, and give his earnest attention to the object contemplated by the municipal authorities of New Orleans, to secure the inhabitants from future epidemic ravages of the small-pox. And he is to make frequent reports to the mayor of the progress making to secure that most desirable object.

ART. 6. Assistant vaccine district physicians shall be paid one hundred dollars monthly, and may be removed by the commissioner for good cause, or transferred from one district to another, as the public exigencies may require.)

The extensive prevalence and fatality of the present epidemic of small-pox show that the Board of Health have not been invested with sufficient powers to enable them to effect its arrest. Vaccination should be made compulsory, during epidemic visitations at least, if the municipal government does not possess the

power to make it a standing requirement of all citizens to vaccinate all unprotected members of their respective families.

During the prevalence of any form of epidemic disease extraordinary powers should be vested in the Board of Health in regard to domicil visitation; in regard to the removal of sick persons from places where their presence will cause the spread of disease, and more especially in regard to authority to vacate rooms or buildings for the purpose of cleansing and disinfecting them and the furniture, bedding or clothing therein contained.

The accumulations of very many facts gathered from widely distant and different fields of observation strengthen in the highest degree the opinions now held, that the diseases which afflict mankind as epidemics owe their existence to the presence of incalculably minute organic bodies,—so small as to be susceptible of aerial transportation.* As the distinctive characteristic of organisms is their power to reproduce their kind, or, of self-multiplication, we are warranted in further concluding that the inception and increase of epidemic visitations presupposes, first a germinal organism, next powers of reproduction.

It would then follow as a consequence that the epidemic influence, or as it is properly termed the "mortality force" of different epidemics of any given disease, would vary in intensity accordingly as those circumstances which affected the development of the germs were more or less favorable to their reproduction. The same causes would affect also their liability and rate

* This is not a new theory but has only been better substantiated and developed recently than in times past. More than a century ago the opinion was expressed that the worst enemies of mankind were "infinitely small" animalcular or vegetable growths. Cuvier also speaks of the frightful profusion (*richesse effrayante*) of the insect world. Within the past few weeks the experiments of Prof. Tyndall have been made public—experiments which lead to an awe-inspiring appreciation of the enormous amount of organic material floating in the form of dust, in the atmosphere of cities. "Further experiments" writes the reporter, "led to still more interesting results. A beam of light was made to illuminate the dust of the laboratory, and the flame of a spirit lamp allowed to play on it. Wreaths of darkness were at once seen to mingle with the flame, just like intensely black smoke. When the flame was placed below the beam of light, the same dark masses steamed upwards. They were at times blacker than the blackest smoke. A red hot poker placed under the beam produced the same dark wreaths. A large hydrogen flame led to the same result. Smoke was then out of the question. What, then, was the blackness? Simply that of stellar space resulting from the absence, from the track of the beam of all matter capable of scattering its light."

That these experiments may be comprehended by the unscientific as well as the scientific reader, it is proper to remark that the effect of heat applied in the various modes described, was to destroy all organic particles within its range, and thus produce the dark vacuum from absence of illuminated dust.

"The Professor then remarked: Nobody could without repugnance in the first instance, place the mouth at the illuminated focus of the electric beam and inhale the dirt revealed there. Nor is the disgust abolished by the reflection that, although we do not see the nastiness we are drawing it in our lungs every hour and minute of our lives. The wonder is, that so small a portion of this dirt should appear to be really deadly to man." * * *

of diffusion, even supposing their volatility to remain the same—the mere force of accumulation increasing the range of infection, for everybody knows that a large putrefying carcass will taint the atmosphere to a greater distance than a small one.

One of the greatest achievements of modern sanitary science is the practical application of what are called the “stamping out” measures to the arrest of epidemics. These measures look to the destruction of the special poison producing the disease and thus lay the axe at the root of the tree. If any agent is known to science which is specifically destructive of the epidemic poison the health officer’s duty is to apply its use and this process is called “disinfection.” If no such agent is known, the health officer supplies the deficiency in the best manner that he can by removing those conditions which experience proves to be favorable to the increase of the poison: he cleanses, purifies, ventilates, and wages exterminating war against every species of filth and impurity in or around infected houses. He ought to possess powers which would enable him during the prevalence of epidemics to exercise these functions in the most unrestricted manner.

ART. 25. Any person who shall hereafter throw dead animals, carrion, ordure, or other offensive or injurious matter into the river above the water works, shall be subject to a fine of not less than ten nor more than one hundred dollars.

Article 25 should be strictly enforced. Pure and wholesome water is indispensably necessary to the health and comfort of a population. The fact is now beyond contravention that the Mississippi water, when rid of its suspended material, is equal in purity to that supplied to any city in the country. Even drank together with its turbid silt, we have the satisfaction of knowing that at every draught of it we do not take into our stomachs the countless myriads of infusoria that each tumbler of unfiltered cistern water contains. The experiments of Leidy and others, have shown that these microscopic organisms are susceptible of digestion and therefore harmless. However true this may be in regard to their occasional imbibition, it does not impair the likelihood that their constant introduction into the human system is hurtful, nor remove our sense of disgust at the thought of swallowing them.

But aside from these microzoa there is a frequent cause of contamination of our cistern water whose baneful effects are beyond all dispute. I refer to the presence of lead. This poisonous metal is infused through cistern water from two principal sources, one, the use of lead in their manufacture and in painting them, the other, from lead pipes used in conducting the water from them. It must be borne in mind that the use of lead pipes in conducting rain water for drinking purposes, involves far more danger than its employment in the ordinary water works of cities, which uniformly supply fountain or river water. In the latter case the inner surface of the pipes becomes coated with an insoluble crust, generally consisting of some calcareous salt; in the former instance the salts and detritus of the lead commingle continuously with the water passing through them.

The builders of cisterns cannot reasonably be expected to be persons of such attainments as to be aware of the consequences likely to ensue from impregnating drinking water with lead, but surely there should be some mode of admonishing either the builders or purchasers, or both, that it is dangerous to coat the inner surfaces of the bottom planks of cisterns with white lead as they often do in jointing their seams. Then as if not content with the sources of risk above stated, we very frequently see the gutters and valleys leading the water from roofs to cisterns thickly painted with lead paints. These matters cannot easily be made subjects of legislation, but they are legitimate and important subjects of investigation and report by boards of health.

ART. 26. Hereafter it shall not be lawful to have, keep, hold, use or devote any place, premises or property whatever, situated above the present, or any future or other water works drawing their supplies from the Mississippi River, any stock-landing, slaughter house, dairy or other depot, the offal, refuse, ordure, soil or other injurious matter from which may, by being discharged therein, defile, corrupt or spoil the water supplied by the said water works to the city, or any part thereof; and the penalty for violating the provisions hereof shall not be less than fifty dollars nor more than one hundred dollars.

The location of slaughter houses, stables and dairies in the city limits below the main supply pipes of the water works, does not appear to be interdicted by any municipal law, but is to be regulated by the following ordinances:

(An Ordinance relative to Stables and Dairies.)

(ART. 1. It shall not be lawful to erect within the following limits: East of Apollo, between the upper line of the city and Felicity; east of Benton, between Felicity-street and New Canal; east of Galvez-street, between the New Canal and Canal Carondelet; east of Broad-street, between Canal Carondelet and Esplanade streets; east of Goodchildren-street, between Esplanade and Independence; above Independence, from Goodchildren to the river, any livery stable, or to erect or keep any stable or shed, for the purpose of keeping more than two cows, without first obtaining leave of the common council. Any person violating these provisions shall be fined not less than ten nor more than twenty-five dollars, and five dollars a day for every day he shall use the said stables after notice from the street commissioner.

ART. 2. All owners of stables, or stalls, or dairies, or persons renting the same, within the city or suburbs, are forbidden to suffer manure to accumulate in said stables, or stalls, or dairy, or on the premises of the same. And all such persons are required to keep constantly in a state of cleanliness the said stables, or stalls, or dairies, and the whole extent of their premises, under penalty of a fine of not less than five nor more than twenty-five dollars, against every offender for every act or neglect in violation of this section.

ART. 3. It is the duty of the street commissioner, whenever he shall deem it necessary, to notify all keepers of stables to remove all manure or offal from the said premises; and every person failing to comply shall be fined from ten to twenty-five dollars, and three dollars a day for every day he shall neglect to remove the manure or offal, after notice as aforesaid.

ART. 5. No stable shall be erected within five feet of the sidewalk of any public street or road, unless the line of the stable along the street be a brick wall without openings thereon, under a penalty of twenty-five dollars.

ART. 6. All ordinances or parts of ordinances conflicting with the provisions of this ordinance, are hereby repealed.

ART. 7. It shall not be lawful for any person or persons to build any stable or stables for the accommodation of more than two horses or two cows, without having obtained a permission from the common council; any person or persons violating the foregoing shall pay a fine of ten dollars per day for every day they shall be in contravention.

That all ordinances or resolutions contrary to the foregoing resolution are hereby repealed.)

It is not proven that the atmosphere of cowhouses or livery stables is of itself prejudicial to human health. The disciples of Priestnitz hold that it is even salutary; but there is scarcely a question that everything which tends to increase the amount of animal excretions and animal effluviæ in a large

city, tends to depress its standard of health. This is accounted for in a two-fold manner: First, human vitality, and the power of resisting sickness are weakened by every circumstance which substitutes impure, for pure air. Second, the "mortality force" of all diseases whose mode of spread is wholly or in part by atmospheric diffusion, is liable to be increased in direct ratio to the amount of organic material floating in the air. This becomes directly palpable if the proposition is thus stated. Let X represent the mortality force or death rate of an epidemic; let Y represent the depression of vitality or lessened power to resist disease from respiring impure air; and Z represent the increased diffusibility of the epidemic poison from possible combinations with organic impurities in the air, then the intensity of mortality force will have a direct relation to the sum of X, plus Y, plus Z.

ART. 27. All slaughter houses, dairies, stables and other places in which animals are kept, whether for profit, pleasure, use or general purposes, shall be kept clean and wholesome by daily removal of ordure, urine, manure and all other offensive matters; and the penalty for each and every offence shall not be less than fifty nor more than one hundred dollars.

The following draft of a law to regulate cow houses, was incorporated in the report of the committee on the "Importance and Economy of Sanitary Measures to cities," made to the third quarantine convention which met in New York in 1857. With some alteration to meet the peculiarities of this locality it is well worthy of adoption by our sanitary law-makers.

1. Every cow-house shall be paved with flag-paving or other non-absorbent material, set and bedded in cement, with a proper inclination to the foot of the stalls, so as to drain into a channel leading, by a fall of not less than one and a half inches, or ten feet in a trapped gully.

2. Every cow house will be provided with a proper trapped drain, to convey fluid matter alone in the sewers.

3. Every cow-house shall be furnished with an adequate supply of water, and be washed thoroughly at least once a day.

4. All solid manure and refuse shall be carefully swept up twice a day, be kept under cover, and be carted away every morning by seven o'clock from Lady-day to Michaelmas, and by eight o'clock from Michaelmas to Lady-day.

5. Every cow-house shall be kept in proper condition, and the walls be lime washed at least four times a year, within fourteen days after the quarter.

6. Every cow-house shall have at least 8 feet by 4 feet for each cow (when the cows are kept in separate stalls), or of 8 feet by 7 feet for every two cows (where the stalls are constructed to hold pairs), with a cubic capacity, in either case, of at least 1000 feet to each cow; shall be properly lighted and ventilated, and when the state of the neighborhood requires it, shall be provided with tight roofs and ventilating shafts, so as to convey the noxious exhalations above the level of the adjacent houses.

7. Every yard in which cow-houses is situated, shall be well paved with stone or other impervious material (the joints of the paving to be run with grout), with such a slope towards the channels and trapped gully, as to permit the rapid escape of all fluids into the sewer, and shall be washed at least once a day.

8. The grain-bins and receptacles for mash, shall be kept properly cleaned, and under cover.

9. No basement, and no part of a dwelling-house, shall be used as cow-sheds.

ART. 28. All contagiously, infectiously or epidemiologically sick cattle, horses and other animals, found within the limits of the city, shall be removed beyond them at the expense of the owners thereof, at the rate of five dollars for every one dollar of cost, if the owner shall leave it to the board of health to effect the removal, under the penalty of not less than seventy-five dollars nor more than one hundred dollars for each and every offence.

ART. 29. For the purpose of this ordinance the City of New Orleans shall be divided into four health districts, for each of which there shall be appointed by the board of health a health officer, who shall be a medical practitioner of standing and reputation; and the salary of each said health officer shall be \$1,500 per annum, and the said health districts shall respectively coincide with the present first, second, third and fourth municipal districts of the city.

ART. 30. The board of health shall have power to appoint and at pleasure to remove all officers appointed under this ordinance. The common council also to have the power of removal for neglect of duty, and to define the extent and nature of duties and powers of each health officer, extending them, if need be, in the case of any health officer to any part of the city.

The policy which governed the recent action of the council in vacating the office of health officer is poor economy and still worse philanthropy. The course which the wisest municipal legislators now adopt, is to place more powers in the hands of medical officers and hold them responsible for the execution of the trust confided to them. While I do not hold to a belief that physicians as individuals are either better or worse than other men, there is yet in the discharge of those duties which pertain immediately to their

profession, a solemn sense of responsibility, which would render them as conscientious in public as in private service.

The following city ordinances touching the cleanliness and sanitary condition of the city are not included in the "health ordinances."

An Ordinance concerning Hotels and Boarding Houses in the City of New Orleans.

ART. 1.—Hereafter every proprietor of any hotel or boarding-house kept in this city, and capable of accommodating more than seventy-five boarders or lodgers, shall keep a cart well covered and so constructed as to be capable of carrying off all the slops and offals from said hotels, as well as the sewerage from their water closets and privies, without emitting any offensive odors, at the hour hereinafter designated.

ART. 2. It shall be the duty of the proprietor of every such hotel or boarding-house to cause all such slops, offals and sewerage from their respective establishments to be removed in a cart constructed as aforesaid, and emptied into the Mississippi River, at the nuisance wharves of the city, every night, between the hours of 11 o'clock, P. M., and 3 o'clock, A. M.; and on failure to do so every night, as above ordained, each and every proprietor so offending shall be liable to pay a fine of one hundred dollars, recoverable before any of the Recorders of the city, or any court of competent jurisdiction, for the use of the city.

ART. 3. Hereafter it shall be unlawful for the proprietors of any hotel or boarding-house in this city to empty, or cause to be emptied, the slops or offals of their respective establishments in the streets of this city, or to establish and maintain, or to maintain and carry on, if already established, any sewer from their water closets or privies into the gutters of the streets of the city; and every proprietor of any hotel or boarding-house violating this section of the above named ordinance, shall be liable to pay a fine of one hundred dollars, recoverable before any of the recorders of this city, or any court of competent jurisdiction for the use of the city, for each offence and for every day that such sewer may exist.

ART. 4. It shall be the duty of the street commissioner to enforce strictly this ordinance; and the lieutenants of police are hereby notified to report to said street commissioner every infraction of the provisions of this ordinance.

ART. 5. This ordinance shall take effect and be in full force from and after the first day of January 1861, and that all ordinances contrary thereto be, and the same are hereby repealed.

ART. 6. On and after the first day of January, 1851, it shall be the duty of the city treasurer, at the time of issuing a license for a hotel or boarding-house in this city, to ascertain whether such hotel or boarding-house, from its capacity to accommodate

boarders or lodgers, comes within the provisions of this ordinance, and in such event to require from the proprietor of such hotel or boarding-house a bond, with solvent security, in the sum of five hundred dollars, conditioned for their strict compliance, respectively, with all the provisions of this ordinance; and it shall, moreover be the duty of said treasurer to furnish to each proprietor a copy of this ordinance, at the time of issuing a license for the keeping of a hotel or boarding-house in this city.

Ordinances for the Regulation of Markets.

ART. 7. That during the half hour immediately following the closing of said markets, the butchers or other persons hiring or occupying their respective stalls, stands and tables, shall be bound to scrape, wash and cleanse the same, as to keep the said stalls, stands and tables in the highest state of cleanliness; and every person neglecting to comply punctually with the disposition of this section, or who shall not quit the said markets at the hour specified in section 6 of the present ordinance, shall pay a fine of five dollars for each offence; and no person shall be permitted to sub-lease any stall, table or stand, under a penalty of fifty dollars.

ART. 9. That it shall not be lawful for any person to erect, or keep any stand, sell fish, shrimps, or have tubs to wash, or other encumbrance, on any of the banquettes of the markets of the city; nor to scale or cut fish on any of the square tables, but exclusively on blocks prepared for that purpose, within the markets, under a fine of not less five dollars a day for each stand.

ART. 10. That if any person shall sell, or expose for sale within the markets aforesaid, any blown, stale, imperfect or unwholesome provisions, or meat of any animal that died of disease, such provisions or meats shall be seized by the commissary, and shall be thrown into the nuisance boat, and the offender shall be fined from ten to fifty dollars for the first offence, and for the second he shall be deprived of vending in any of the markets or of hiring any stall. It shall be the duty of the commissaries of the markets, daily, to make a strict inspection of the butchers' meat, and of other provisions exposed for sale at the said markets, and to enforce the strict observance of this regulation.

ART. 32. That all vendors of meat, fish, fruit, etc., within the limits of said markets, shall be required to throw the daily refuse of their stands into the barrels or tubs so provided, and that the contractor for cleansing the streets of their district shall cause the same to be disposed of as in the case of other daily offal.

ART. 33. That any vendor in said markets who shall throw, or cause to be thrown, any meat, fish, fruit or vegetables, whether decayed or otherwise, into any of the streets or gutters adjoining said markets, shall be liable to a fine of not less than five nor more than twenty dollars for each offence; one-half of which shall be paid to the informant, the balance deposited in the city treasury for the use of the city.

More care should be exercised in the removal of the offal of fish. In a number of the markets the entrails are thrown upon the pavement. Whatever may be the disagreements among medical observers in regard to the insanitary influences of slaughter-house atmosphere, there is an almost universal admission that putrid fish have given rise to fatal epidemic disorders.

Factories, Tanneries, Slaughter Houses, Etc.

ART. 1. From and after the passage of this ordinance, it shall not be lawful for any person or persons to establish either a soap factory, tannery, bone black factory, camphene factory or slaughter house within the limits of this corporation, or to continue any that may now be established, without first having obtained permission of the common council, under a penalty of one hundred dollars for each and every offence, recoverable before any court of competent jurisdiction for the benefit of the city.

ART. 2. That all ordinances or parts of ordinances contrary to the provisions of this be, and the same are hereby repealed.

In connection with the expediency of enforcing this ordinance the often discussed question "do bad odors cause disease?" again presents itself. Certainly many very offensive odors do not occasion disease. Some, in truth, have the reputation of preventing or curing certain diseases, as for example, coal gas has been supposed to modify whooping-cough, and it is a popular belief that wearing camphor or assafoetida bags will prevent attacks of various epidemics. While these opinions are in all likelihood equally incorrect, we must yet admit that human olfactories possess no endowments which qualify them to act as safeguards against the approach of atmospheric causes of disease. Aside from the stinking fogs which have been known to attend certain pestilences, and the stench occasionally connected with malarial poison, it is only the physician who is enabled by cultivating this sense, to detect certain diseases by means of their peculiar odor. Still, in addition to the urgent necessity of repressing bad odors simply under the score of offence and nuisance it seems to me vitally important that the atmosphere of this favorite resort of zymotic diseases should be kept as absolutely free of floating organic materials as is possible to accomplish by human efforts. Whether the organic vapor possess an odor or not; whether the odor be agreeable or disagreeable, it may equally facilitate the spread and intensify the poison of some ex-

isting epidemic. I presume no cautious physician would hazard the assertion, however absurd it might appear at first blush to be, that even the perfume of flowers when excessive in quantity, may not be susceptible of combinations with the atmospheric germs of disease which increase their noxious action. This remark, however, is merely made by way of illustration, and need scarcely alarm the lovers of our floral gifts, lest the atmosphere which is over-burdened with the fragrance of flowers, may carry entangled with their volatile emanations the germs of a lethal epidemic, and thus like Undine's kiss smite with death while it intoxicates with delight.

Lewd Women.

ART. 11. That all houses, buildings, dwellings or rooms occupied by lewd women, shall at all times be subject to the visitation of the police of this city.

This ordinance should be amended by inserting after the word "police," "and officers of the board of health."

Registered houses of prostitution should be visited once weekly, and their inmates inspected in regard to their sanitary condition, and those found diseased should be sequestered until restored to health. For the proper performance of this duty the board of health should be made responsible.

City Physicians.

ART. 1. There shall be appointed by the common council of New Orleans two physicians, to be called the city physicians, whose duty it shall be to attend to all the prisons, workhouses, houses of refuge and jails of this city; one shall attend in the first and fourth districts, and the other in the second and third districts.

ART. 2. It shall be the duty of said physicians to visit, at least once every day, all the workhouses, jails, etc., and attend any patient or patients in the prisons, and continue so to do as often as necessary, when called upon in their respective districts.

ART. 3. In addition to the duties, they shall act as expert physicians to the coroner, each in their respective districts.

ART. 4. They shall both visit the public schools once in each week, in order to vaccinate the children, under the direction of the visiting committees of the respective schools.

ART. 5. In case of the absence or illness of either physician, the other shall attend to his duties as long as it may be necessary; should it not be possible for one to attend to the duties of both, the health committee may appoint an assistant physician for the time required, whose compensation shall be five dollars

per day for the first fifteen days, and two dollars for every subsequent day he is employed, to be paid by the city treasurer; provided, the regular physician is ill, or absent with leave of the health committee; if not, said assistant physician must receive his compensation from the physician whose duty he fulfills.

ART. 6. They shall each day register, in the book kept for that purpose in each prison, workhouse, etc., all their prescriptions, with the name and number of each patient, from which book the orders shall be executed by the nurses or keepers.

ART. 7. The medicines shall be ordered and inspected by the physician in their respective districts, who shall approve the bills for the same before payment can be made.

ART. 8. The physicians shall have the power to remove any prisoners attacked with any contagious disease to some place selected by themselves, and treated at the expense of the city.

10. The common council reserves to itself the right of dismissing either or both of the physicians at will.

Cemeteries and Interments.

ART. 1. That no keeper of any burial-ground within the limits of the city shall receive or bury any corpse unless the bearers or carriers of the same shall deliver to him the certificate of a licensed physician, or of a magistrate, or of the coroner, containing a statement, specifying as nearly as possible, the death, name; age, birth-place, sex and color, and setting forth the location of the house or place whence said corpse was taken for burial, giving the name of the owner or lessee of said house or place, and the number and street where said house is situated; and if there is no number, as close a description of the situation of said house as possible; and should any keeper of any burial-ground refuse or neglect to perform any of the duties required by this article, he shall be fined the sum of fifty dollars for each and every violation.

ART. 2. Whenever the keeper of any of the said burial grounds shall discover that the formalities required by this ordinance cannot be complied with by the bearers or the carriers of the said corpse, or by any person or persons bringing the same for burial, he shall immediately inform the coroner thereof, in order that said officer may proceed to ascertain whether any crime has been committed; and for any neglect to comply with this provision, the said keeper shall be fined, as provided for in the preceding section.

The points of information demanded in section 1, should be more particularly and fully itemized. None but sanitary experts are able to judge of the importance of ascertaining as many facts as possible in regard to the circumstances immediately connected with the death of any and every individual member of a community. The value of these items, either separately or collect-

ively, cannot be estimated until studied in masses accumulated by a considerable number of returns. The greater the number of returns of death with full statement of facts, the more valuable will be the lessons deducible. I propose that the blanks distributed under orders of the Board of Health shall be amended as follows:

1—Name 2—Color or Race..... 3—Age..... 4—Sex..... 5—Condition (single, married or wid'wr) 6—Occupation..... 7—Date of death..... 8—Cause of death.....	9—Place of death (street and number) 10—Place of residence..... 11—Time in this city..... 12—Place of birth..... 13—Names of parents..... 14—Birth place of father..... 15—Birth place of mother..... 16—Remarks.....
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M. D.,
 Attending Physician.

I have had sufficient experience in the collection of vital statistics through official sources to have learned that they are obtained with as much certainty and exactness when all the items in the previous list are asked for in the returns instead of a smaller number. It would be beyond the scope of this article to occupy time and space in showing the value of each point of information enumerated on this blank. If the reader will suppose himself seated any Monday morning in the office of the Secretary of the Board of Health, with the full mortuary returns for the past week, made out in strict conformity to these blanks, he will appreciate the perfect transcript afforded by them of the workings of death among us. He learns who were his victims,—in what part of the city the victims were found—what their surroundings were. Were they living near the swamp, or nearer the river? Was their street clean or filthy? How many of these deaths were preventable and therefore unnecessary? What should have been done to prevent them?

A *pro forma* return of every birth and death occurring in the city, should be rigidly enforced. They are to the sanitarian what the ledger is to the merchant. The foundations of sanitary science rest upon the information they afford with regard to a given population.

ART. 3. All tombs must be built of the best kind of brick or stones, laid in mortar, with the proper proportion of the best

cement and sharp sand, and covered with bitumen on the ground floor of each tomb, with walls not less than nine inches in thickness, and plastered. All the tombs must be kept in good order, and it shall be the duty of the sexton to notify the owners thereof to have them repaired; otherwise it shall be done by the city at the expense of the owners, who shall be fined in the sum not exceeding fifty dollars.

ART. 4. The mayor and recorders are each authorized to grant permits for the opening of tombs in the public cemeteries, to such persons as may make such application to deposit a dead body therein.

ART. 5. The various churches and associations owning cemeteries are authorized to use them under such regulations made by them, from time to time, as may not conflict with city ordinances.

ART. 7. All sextons shall inter, within the shortest possible delay, all deceased persons who may be conveyed to their respective cemeteries, in graves to be dug not less than four feet in depth, and to be at a distance of at least three feet from each other, according to such limitation as shall be described by the city surveyor, and in pursuance of such directions as they may receive from the mayor; and it shall be the duty of each of said sextons to keep a book, in which they shall insert, according to their dates, the name, sex, age, business and birth-place of each and every person they shall bury in the ground, or deposit in the tombs; to take care that no damage be done to the tombs and fences; to prevent cattle and beasts from going into the said cemeteries; to deliver daily to the chief of the police a certified copy of the burials set forth on their books, whenever thereunto required by the mayor, city council or chief of the police, and to deliver over to their successor the said books. And the said keeper shall be fined not less than ten, nor more than fifty dollars, for each and every violation of the foregoing provisions.

ART. 9. At the expiration of every month, it shall be the duty of keeper of the burial grounds within the city, to deliver to the recorder of births and deaths of this parish all the original certificates required by the ordinances, by virtue of which the said keepers have received bodies for interment. And the said recorder of births and deaths shall carefully file and preserve such original certificates, and keep indexes to the same, so that they may be easily found and referred to, and shall give copies of the same duly certified, whenever thereunto required by the persons interested.

ART. 10. It shall be the duty of the surveyor to visit the cemeteries once a month, and oftener, if he deems it necessary, in order to prescribe the limitations according to which the graves and tombs are to be made, care being taken to reserve all around and along the fences, such places as may be necessary to build tombs for account of the city; and it shall be the duty

of the street commissioner to visit the cemeteries once a month, and see that the ordinances are observed.

ART. 11. No burial shall be permitted in any church-yard in this city, except the pastor of their churches, under a penalty of five hundred dollars.

Sanitary laws, unlike civil and moral laws, are not universal in their application, but have grown out of the necessities of localities differing radically as to the circumstances affecting the health of their respective populations. On this account very little of what has been legislated or written in regard to intramural sepulture is applicable to the mode of burial in this city. There is no reason to doubt that ill-health to the occupants of such houses has frequently followed their erection upon soil that had nearly or quite reached the point of saturation, or in other words, soil which from repletion of animal remains no longer retained its powers of disinfection and deodorization. But no such facts can properly apply to the mode of sepulture practiced in this city. Here the bodies of the dead undergo such rapid disintegration and volatilization that within a very few months only the ashes remain. Some very few exceptions occur, a portion of which are attributable to the fact that the burial cases are hermetically sealed and thus the process of decomposition is retarded, in another portion partial dessiccation and mummification take place.

But these latter examples are so few that the question is mainly in reference to contaminations of the atmosphere by the volatilized elements of dead bodies undergoing extremely rapid decomposition, but enclosed with carefully constructed walls of stone or brick. The very elevated temperature to which the air of these vaults must be brought by the almost tropical heat of the sun, is not favorable to the life of the germs of zymotic diseases, so that I presume these affections are seldom or never communicated by emanations from our tombs. Moreover, the process of destruction is so rapid and complete, as to resemble combustion more than ordinary decay; the period therefore must be brief when any form of organic effluvia will continue to escape.

In the absence therefore of all proof or information to the contrary, I conclude that our method of interment is not prejudicial to the health of inhabitants, even living in the immediate vic-

nity of cemeteries, in any other manner than in adding to the amount of organic matter floating in the atmosphere and thus increasing its aggregate impurity.

These conclusions, however, rest principally upon hypothesis, for although intense degrees of heat and cold are unquestionably very positive disinfectants I have merely ventured the conjecture that the temperature of the tombs in our cemeteries becomes sufficiently elevated to inure to this end, without knowing any facts in proof. The correctness of the second conclusion rests upon that of the first. Whether correct or incorrect, sufficient arguments have already been adduced to show how important it is to the health of a city to remove every preventable source of the defilement of its atmosphere by organic effluviæ. Moreover, the policy of great cities is opposed to intramural sepulture on grounds of impediment, inconvenience and gloominess of associations. We may add to this the fact that the highest cultivation of taste, and affection for the dead prompt the desire that their last resting places shall be surrounded by quiet and rural adornments, only to be obtained beyond the limits of a city. It is therefore desirable that future interments should be discouraged within the corporate bounds of this city.

ART. 14. It shall be the duty of every person, at whose domicile any person shall have died, to cause the same to be buried within forty-eight hours after his death; and any person offending against this section of this ordinance, shall pay a fine not exceeding one hundred dollars for each offence.

ART. 16. The street commissioner and his deputies are hereby authorized to give certificates for burial, embracing the particulars enumerated in the first section of this ordinance, whenever he or they shall be satisfied, from the representation of any known responsible citizen, that there is no reason to suspect that the death of the deceased has resulted from any other than a natural cause, and the subject is one of indigence, and appropriate for charity; and in such cases the street commissioner and his deputies are authorized to provide for the decent interment of the bodies of such indigent deceased persons, by procuring necessary number of coffins to be made; provided, the expense of each grave shall not exceed two dollars; and the expense of the conveyance to the cemetery, except in times of epidemic, shall not exceed seventy-five dollars per month, which shall be paid for two wagons to be used for the purpose, one of which shall be stationed, when not in actual use, near the City Hall, and the other near the office of the deputy street commissioner, of the

second district; and provided, also, that the persons engaged in this service shall convey indigent sick persons to the hospital, whenever called upon for that purpose, and when not occupied in carrying indigent dead persons for burial; and provided, further, that only one of said wagons shall be employed in this service, at times when one shall be able to comply with all the demands.

ART. 17. It is hereby made the duty of the sheriff to give immediate notice to the street commissioner of the death of any prisoner or prisoners confined in the parish jail, and it shall be the duty of the said commissioner to have said bodies interred in the same manner as is provided for the indigent poor; provided, that in all cases the friends of the deceased shall have the privilege of burying them at their own expense.

ART. 18. Hereafter no person shall be buried in the ground of the cemetery, or the square comprised within Washington, Sixth, Prytania and Plaquemine streets, of the fourth district; and in future no interments shall be made therein, except by persons owning lots, vaults or tombs; and further, that the St. Joseph Asylum, of the fourth district, may use square No. 271 for burial purposes.

The mildness of our climate invites to the open air, and it is presumed that the evil effects, which result from over-crowded habitations, are not so common here as in more Northern cities. But in view of the large influx of ignorant and improvident people towards all the Southern cities, and especially this, the following or a similar draft of ordinance should be incorporated among the health laws.

Whenever the Board of Health shall be satisfied that the number of persons occupying any tenement or building is so great as to be the cause of nuisance, or sickness, or a source of filth; or that, from any cause, they are in a condition which is prejudicial or dangerous to the public health, or to the health of the occupants themselves; they may thereupon issue notice, in writing, to such persons, or any of them; that is to say, the owner, agent, or occupant, or either of them, to cause either or all of these deficiencies to be supplied, and the premises put into a cleanly and proper condition, within such reasonable time as they shall appoint: and in case of neglect or refusal to obey such notice, they may themselves cause the alterations and cleansings to be done forthwith, and the expense of it shall be paid by such owner, agent, occupant or other person. Or they may, if they think fit, issue notice to the persons inhabiting such tenement, or to the owner or agent, requiring them to remove from and quit the premises, within such time as the Board may deem reasonable; and if the person or persons so notified, or any of them,

shall neglect or refuse to remove from said tenement or building, the Board of Health are hereby fully authorized and empowered thereupon forcibly to remove them.

The previous pages set forth an exhibit of all the sanitary ordinances, represented to me as being at this time in force in the city of New Orleans. The experienced reader will at once perceive their many excellencies, and may wonder why they should be complained of at all. The truth is, that although as an efficient sanitary code, they have some imperfections, principally found in their lack of adaption to the peculiar exigencies of this city and population, nevertheless, the great cause of failure in meeting our wants, is faultiness of execution. Under the present method of working, the Board of Health is to enforce their ordinances principally through the Street Commissioner, whose official instructions do not specify obedience to the Board of Health, or affix proper penalties for disobedience to them. The case therefore presents somewhat the aspect of the chronic causes of complaint on the part of medical officers in armies and navies who are invested with official rank without authority adequate to the discharge of any duty which imposes obligations upon non-professional persons. They have rank but no right to command. The great Napoleon had the sagacity to perceive this defect in the sanitary police of his army, and with characteristic promptitude invested Baron Larrey with independent and absolute powers in every matter concerning the health of his soldiers. The City Council of New Orleans should vest competent authority in their Board of Health, and place at their disposal competent force and competent means to carry into execution all sanitary ordinances as well as to meet extraordinary emergencies occasioned by threatened or existing epidemics. Whenever clothed with these powers they may reasonably be held to a strict accountability for the manner in which they discharge the duties of their offices.

From the following remarks copied from the "History of the Health Laws of the State of New York," it would seem that difficulties similar to those occurring to our Board of Health, had been met and overcome by the Metropolitan Board of Health of New York. In the above named paper, dated July, 1866, their

Attorney, Mr. Bliss, thus writes, in reference to their new code of health ordinances :

The broadest discretionary power has been vested in them. Give them jurisdiction over a subject, and their decision is final. It was not intended that that decision should be reviewed in the courts further than to see that it was within their jurisdiction. If it was a matter relating to health, their power was made above that of the courts; such is the very essence and meaning of a health law. Were it otherwise, a Board of Health would be worse than a fifth wheel to a coach. The former laws, it will be seen, put power into the hands of Boards appointed, in whole or in part, by the Governor; gave power to pass general rules and to make specific orders, and make a violation of either a misdemeanor; authorized business to be forbidden, buildings to be closed, and nuisances abated on the shortest notice; imposed the expense on the owner, gave power to issue warrants, to destroy property, to remove persons and things from the city, and, in short, to do everything that is authorized by the present law. If any member will take, as I have done, a copy of our law, and mark the powers conferred by it, which are also to be found in former laws, he will find literally no new ones. The difference is that an attempt is being made to execute the existing laws.

The figures brought together by Prof. Chaillé, show a deplorable condition of public health, but by no means a condition hopeless of remedy.

Within the memory of numerous persons still in the vigorous enjoyment of life, Louisville was called without contradiction "the grave-yard of the West." Now it is one of the healthiest of American cities. What has wrought the change? Draining and filling ponds and swamps, paving their streets and the adoption of an admirable system of constructing their residences so as to avoid crowding and to secure ample ventilation. While the topography of New Orleans makes drainage a more difficult problem here than in Louisville, the difference in geological substrata renders it more imperatively necessary. A bed of coarse gravel underlies Louisville, which is extremely favorable to the subsidence of surface water; here, a dry well is an impossibility, and all surface water must be gotten rid of by drainage or evaporation. Those who have an interest in the future glory and prosperity of New Orleans, should strain every nerve—bring every influence to bear in order that a thorough system of drainage and of street paving should be extended as rapidly as pos-

sible over the whole municipal territory. Not until these ends are accomplished will this imperial and beautiful city occupy a sanitary position and claim a sanitary reputation deserving of its high status in point of wealth and enlightenment.

It seems to me that the best and in the end the most economical system of street gutters, which can be adopted here will prove to be either sections of cylinders of cast iron, or slabs of stone so placed as to form the bottom and sides of the gutter. In either case, cast iron slabs should be made to cover the gutter. The latter is important to prevent evaporation and important also because experience as old as the most prosperous era of Rome has demonstrated that sewers cannot be kept clean by flushing alone.

These suggestions, however, come from one who does not pretend to the least knowledge of civil engineering, but, whose mind is so deeply impressed with the paramount objects of shutting off sewage water from the rays of the sun and constructing the gutters in such manner that they may be readily cleansed, that all other considerations were merged in these.

This paper is not designed to include the consideration of any subjects connected with the sanitary condition of New Orleans, which cannot properly be made points of legislative enactment. On this account no mention is made of the many serious violations of the rules of health in the social and personal usages of our citizens. It is probable that these infractions are not in any whit more numerous or more flagrant in New Orleans than in most other cities of equal population, but dissipations and the abandoned pursuit of pleasures bring surer and swifter penalties here than in cooler climates. Now, although these are matters which cannot be controlled by direct legislation the city government has the power and opportunity to establish places of resort and recreation which will attract our citizens to spend their leisure hours in amusements conducive alike to health and the cultivation of the most refined taste.

No American city has a pleasure ground more readily susceptible of utilisation and embellishment than our City Park. Why are measures not taken to render it a point of attraction and resort for our citizens? If the condition of crippled finances of the

city prevent the necessary outlay, why will not some of our leading citizens apply for its gratuitous lease, and by joint stock establish zoological and botanical gardens after the plans of those connected with most of the large European cities? Money thus appropriated will yield our citizens a thousand-fold more of profit and pleasure than do those large sums annually expended upon purposeless pageants. Some of these gardens are in Europe made self-sustaining by a chartered right to require of visitors a small admission fee and still are accessible to the poorest citizens as on stipulated days they are free to all.

ART. II.—*Memoranda of Medical Clinic at Charity Hospital, New Orleans, Louisiana, 1869–1870 : By JOSEPH JONES, M. D., Professor of Chemistry in the Medical Department of the University of Louisiana, New Orleans.*

SECTION I.—DISEASES OF THE NERVOUS SYSTEM.

SUMMARY.

Loss of Mental Power (partial insanity) ending in coma, delirium, and death ; and attended with structural alterations of Brain.
Temporary Insanity followed finally by loss of mental power, paralysis, and death ; structural alterations discovered in the brain and spinal cord.
Insanity caused by Effects of Syphilis on Brain ; death, Structural Alterations of Brain.
Dementia, Paralysis, and Death ; Clots in Corpora Striata and Optic Thalami.
Effects of Superstition upon Negro Race.
Practice of Obeah or Witchcraft by Negroes ; Effects upon mind and body.
Epilepsy ; Death—induration of Cerebellum. Treatment of Epilepsy.
Remarkable case of Cerebro-spinal Disease, attended with Convulsions, recurring at short intervals, and attended with protracted Somnolence.
Traumatic Tetanus ; structural alterations of Cerebro-spinal nervous system in Tetanus.

Paralysis—progressive, failure of muscular and nervous power ; structural alterations in spinal cord.

Paralysis of lower extremities, following Epileptic Seizures.

Lead Colic, Epilepsy, Paralysis and Death.

Mechanical Injury of Spine, resulting in paralysis of lower extremities.

Chorea—effects of Snake Bite.

Facts from various authors, illustrating the importance of the study of Diseases of the Nervous System.

Facts illustrating the influence of the Nervous System and mental impressions in the production and cure of diseases.

✓ CASE I.—*Loss of Mental Power (partial insanity), ending in Coma, Delirium and Death, and attended with Structural Alterations of the Brain.*

CHARLES U., aged 28 years; native of Dublin, Ireland; has been in the United States Army for several years, served during the recent war, and worked his way up from the ranks to the position of 1st Lieutenant; was mustered out of service at Greenville, in March 1868, at which time he moved to New Orleans, and entered the family of Mrs. A. Patient assisted Mrs. A. in various ways, doing work about the house as directed. After a time, about six months before his final illness, it was noticed that the patient exhibited less intelligence than formerly. The intellectual powers appeared to fail gradually, and the patient became "unreliable," and when sent on an errand, would go to some other place than the one specified. Three weeks before his entrance into the Charity Hospital became delirious and insensible, with short lucid intervals, when he appeared to recognize Mrs. A. and her family. Bowels constipated, and during three weeks, is said to have had only one action from the bowels. The attending physician applied a blister over the head, and administered purgatives, but without any apparent benefit.

Entered Charity Hospital March 8th, 1869, ward 29, bed 430. Medium height; blue eyes, light hair, red beard; reduced in flesh; lies in a state of delirium and apparent insensibility; cannot be aroused; twitching of tendons and picking at bed-clothes. Bowels obstinately constipated; passes his urine in the bed, has a powerful ammoniacal odor.

Purgatives were freely administered, and a blister was applied to his head; these measures, however, produced no perceptible benefit, and the patient died on the fourth day after his admission.

Autopsy Eight Hours after Death.—The *Brain and Spinal Marrow* were carefully removed. The pia-mater and arachnoid were thickened, with fibrinous deposits thrown out, especially along the track of the blood-vessels.

The two hemispheres of the brain were firmly adherent, and could only be separated by dissection with the scalpel.

Blood-vessels of pia-mater greatly congested with blood. Grey matter of brain congested; white matter somewhat softened. Fibrinous effusion around base of brain.

Pia-mater and arachnoid of spinal cord, greatly congested with blood and the bloodvessels of the spinal cord were not only distended to their full capacity with blood, but they also presented a tortuous and varicose appearance. Grey matter of cord somewhat congested; white matter softened. The spinal cord was removed and examined throughout its entire length.

The blood-vessels of the brain presented not only an enlarged appearance, but thickened walls.

Microscopical examination showed that the fibrinous effusion was being organized, and that the changes in the membranes of the brain were of slow development, and dated back in their origin, weeks and even months.

The two hemispheres of the cerebrum, were so completely adherent, that the longitudinal fissure could be displayed only by the use of the scalpel and considerable force.

The sympathetic nervous system was dissected out, and examined microscopically, no evidence of disease was discovered in it.

The *lungs* and *heart* were normal. The abdominal viscera presented nothing unusual, with the exception of a light bronze color of the liver, and some enlargement of the spleen.

These changes of the spleen and liver however, were of long standing and had no connection whatever with the fatal attack. The liver and spleen, when cut and exposed to the action of the atmosphere, assumed a bright arterial hue,

Kidneys congested, but otherwise healthy.

In this case we have an instance of the connection of deranged mental action with structural alteration of the brain and its membranes.

V CASE II.—*Temporary Insanity, occurring occasionally during a period of years, followed finally by Loss of Mental Power, Paralysis and Death. Structural Alterations discovered in the Brain and Spinal Cord.*

John L. B., native of Mississippi, aged 50 years, admitted to ward No. 28, bed 416, October 20th, 1868; was in comfortable circumstances previous to the recent civil war, and has a wife and family.

Twelve years ago attempted to take the life of his partner, without any known cause, and since this time has had occasional fits of temporary insanity, although he has continued in business.

Three years after the attack on his partner with fire-arms, he killed his horse, cutting its throat in the road, whilst harnessed in his buggy, without (as in the first instance), any known reason for the outburst of passion. The patient is said to have continued in a wild delirious state for several days after these violent manifestations. During the war lost his property, and at its close roamed about the country in a demented but harmless state.

At the time of his entrance into the hospital, walked with great difficulty,—spoke slowly and with effort, mind obtuse, and patient gives no rational history of his past life, each time giving a new story. In attempting to walk about the wards, fell several times; motions feeble and unsteady; apparent want of co-ordination of the muscular motions; cannot turn without help in bed, requires assistance in dressing. Sensation apparently impaired. General appearance that of a large, stout man, with full limbs, but in a low cachectic state, with pale, sallow complexion. Passes his urine and fæces in bed at night.

The powers continued gradually to fail, and with this progressive loss of muscular and nervous power, the circulation in the extremities appeared to grow more sluggish. January 1st, 1869, the patient has several large bed-sores upon the hips, caused by pressure, and the action of the involuntary discharges of urine.

The bed-sores were dressed with a cerate composed of one drachm of crystallized Carbolie acid mixed with one ounce of Simple cerate. The internal treatment consisted of one-twentieth of a grain of Strychnine, and fifteen drops of the tincture of the Sesqui-Chloride of iron, three times a day, together with the most nutritious diet afforded by the hospital; under this treatment, with attention to the state of the bowels, and to the personal cleanliness of the patient, with occasional blisters to the back of the neck, the general health improved in a marked manner; there was a temporary increase of muscular power, the patient became more cheerful and rested better at night; and at the same time, the effects of the iron were manifested in an improvement in the complexion. The bed-sores also, healed rapidly and fully. This improvement, however, was only temporary, and in the early part of February, the difficulty of walking became so great, and the tendency to fall, even when sitting in a chair, so constant, that the patient was compelled to lie the most of the time in bed. Remains as usual in a vacant, listless state.

The powers have progressively failed up to the present time, February, 19th, when the patient lies in a state of mental vacuity, with mouth open, and eyes staring, unable to answer the simplest question intelligently; with almost complete loss of muscular power in the lower extremities, and with large bed-sores forming upon the exposed parts of the trunk, notwithstanding every effort to prevent their appearance, by friction and stimulating applications.

The students had daily opportunities of witnessing the gradual and progressive failure of the intellect, and muscular and nervous forces in this patient; the progressive loss of power, was also clearly shown in the fact that in December, the patient was able, with supports on either side, to walk down from the third story of the hospital to the floor of the amphitheatre on the first floor. In January it was necessary to bring the patient down in a chair; and at the present time he lies prostrate unable to sit up.

It is worthy of note that up to the present time, there has been no fever, no increase of respiration or circulation, or of animal temperature, and the nutritive functions have been performed with regularity.

From the history of this case, we are justified in the conclusion that the disease of the brain has been of long standing; that the *insanity* was dependent upon some *structural alteration of the brain*; and that the *alteration*, degeneration or softening of the brain has gradually extended to, and affected the spinal system.

This case presents a progressive failure of the intellectual, nervous and muscular forces, without any sudden paralysis or contraction of the muscles, and the only sudden and violent nervous agitation with which the patient was afflicted since his entrance into the hospital was a slight convulsion about noon on the 12th of February, after making unusual efforts at sitting up and attempting to walk. So far as could be learned from a member of the medical class, this was the only attack of this kind that he had ever had, and we are led to exclude epilepsy as the cause of the progressive failure of the intellectual and nervous powers.

The patient continued progressively to fail; lay in an unconscious condition, occasionally groaning and crying aloud, especially at night, when he disturbed the entire ward. One fourth of a grain of Morphine, was tried at bed-time, without any special benefit. The patient does not reply when addressed, and appears to be wholly unconscious of any thing passing around him, and is oblivious of his distressing condition. Urine and feces passed in bed; bed-sore forming upon back over sacrum; circulation sluggish; surface of the skin in dependent portions of the body, of a purplish red, mottled appearance. Patient unable to turn in bed, or to move his lower extremities. When the feet and legs are pinched, the patient contorts the face, and evidently suffers pain.

The patient continued to sink; gradually lost the power of swallowing, and could take no nourishment; breath became very offensive, and the teeth loaded with sordes; four days before death, the right thigh was contracted and drawn up towards the trunk. Patient appeared to suffer pain when the attempt was made to straighten the limb.

Died March 3d, at 8 o'clock, P. M.

A careful *autopsy* was made the next morning, at 8 A. M., with the following result:

Exterior, full and not wasted; *heart* normal; *lungs* pale, but perfectly healthy, [with no deposits; alimentary canal and all the abdominal organs, liver, spleen, and kidneys normal in appearance.

Head.—Well-formed and large cranium, with a symmetrical arch. Nothing peculiar, however, was noted with reference to the cranium.

Dura mater, firmly adherent to the bony structure; *pia mater*, greatly congested and thickened; the arachnoid was in like manner thickened, and presented much more of an opalescent appearance than usual.

Brain, large, well formed, and unusually firm. The blood-vessels of the nutritive membrane of the brain, were everywhere larger, more numerous and more congested than in healthy brains. This condition was in no manner connected with the mere stasis of blood, because it was as great in the most elevated portions of the brain, as in the most dependent. When cut, sections of the brain revealed a state of remarkable congestion. The congestion was greatest in the *grey matter* of the convolutions and of the optic thalami, giving to those collections of ganglionic water a pink high-colored appearance.

The blood-vessels of the brain *in all parts*, were larger and more numerous and more congested, than in healthy brains. The blood-vessels were not only congested, but they were *permanently enlarged*.

The large size of the small blood-vessels and even of the capillaries, as well as the state of congestion, imparted to the grey matter a deep pinkish tint.

Under the microscope, the ganglionic cells, of the grey matter, and ganglia of the brain appeared to be diminished in number, whilst the capillaries were increased in size, with thickened walls. Exudation corpuscles were observed amongst the brain structures, and especially along the tracks of the blood-vessels.

The pia mater of the spinal cord was congested in a similar manner. The spinal cord was covered all around by a net-work of large anastomosing (varicose) blood-vessels, engorged with blood. The blood-vessels appeared to be fourfold more numerous

than in health. Upon section, the blood-vessels of the spinal cord, in all parts, were found to be similar to those of the cerebrum and cerebellum. They were greatly enlarged and congested with blood.

The vessels were largest, most numerous and most congested in the grey matter (ganglionic central columns), of the interior of the cord. So marked was the enlargement of the blood-vessels of the cord, and so great was the congestion of blood in them, that the grey matter of the cord, everywhere presented a bright-red color, wholly different from the grey color of health. The cord was firm in texture. Under the microscope, the ganglionic cells appeared to be more numerous in the grey matter of the spinal cord, than the grey matter of the brain; and the capillaries were enlarged and their walls greatly thickened. *Exudation corpuscles, were also seen in the neighborhood and around the capillaries; and both in the spinal cord, and in the brain, some fragments of the coloring matter of the blood were discovered in the textures.*

It is a question whether the insanity was caused by this congested and enlarged capillary circulation. *The temporary nature of the fits, as well as their violence, would indicate that the primary lesion existed in the circulatory apparatus of the brain and spinal cord.*

In this case, we have as in the preceding one, an instance of the *connection of deranged mental action with structural alterations of the brain.*

It is of great importance to the science of medicine, that every case of insanity, should not only be subjected to the most rigid investigation during life, but also that the most careful examination of the nerve structures, should be made after death.

The brain is liable to disease, as well as any other organ in the body, and as it is the organ of the intellectual faculties, it makes a vast and important difference in our pathological views and therapeutical principles, whether we regard insanity as connected with and dependent upon structural alterations, or as a disorder of the intellectual faculties and moral power.

Whilst various causes may be active in the production of that terrible state, in which man is degraded to the level of the brute, by the loss of those powers which enable him to direct and con-

trol the forces of matter, and even immaterial agents; it is certainly of great importance to medical science to determine with utmost accuracy the structural lesions of the brain and spinal cord, in all the various forms of insanity.

A wide and important field of research is opened to the medical superintendents, directors and attending physicians or the various Insane Asylums in this country. Each case of insanity should be subjected to rigid scrutiny; accurate measurements should be made of the cranium, and all peculiarities of conformation and of physiognomy should be noted and compared with the peculiar phases of the insanity; and this careful examination should be completed by a thorough examination of the brain after death. If a small portion of the funds of each State Asylum were devoted to the careful investigation and delineation of the peculiar conformation of the cranium and countenance (by photography), and to the publication of the annual results of the pathological labors conducted by competent men, important results would be achieved for the science of medicine.

Two other cases of mental derangement came under the observation of the students of the Medical Department of the University of Louisiana, illustrating the connection of mental derangement with structural alteration of the brain.

CASE III.—*Insanity caused by Syphilis: Structural Alteration of Brain.* ✓

The case was that of a white female, who had had syphilis, and the mental derangement came on, after the super-vention of constitutional symptoms, and appeared to be directly referable to the structural changes induced in the brain by the syphilitic poison.

It was observed during the life of the patient, that she was insensible to bad odors. Thus, as she was suffering from diarrhœa, the excrementitious matters were frequently daubed upon her nose and face, by her own hands, and the patient appeared even in the lucid moments, to be wholly oblivious to their presence and offensive odor.

After death, it was found that the structures of the brain, were extensively softened and altered in the neighborhood of the origin of the olfactory nerves.

The alterations of the brain and the symptoms of insanity, in this case, were referred to the action of the syphilitic poison.

It has been established by the researches of various observers, that the brain may be affected *indirectly* by syphilis, as in caries, necrosis, exostosis of the cranial bones, gummy tumor of the skull, or deposits in the dura-mater, which membrane has been compared to an internal periosteum.

These lesions may excite inflammation of the dura-mater, which may extend to the arachnoid, pia-mater and surface of the hemispheres.

It has in like manner been shown that the brain may be *directly* affected by syphilis; the nervous substance being the seat of syphilitic gummy deposit followed by softening, and cases have been recorded, in which white and red softening of the cerebral substance have been caused by syphilis.

In the neuralgic affections, paralysis, epilepsy and dementia, following the appearance of the constitutional effects of syphilis, good results and even effectual cures may be obtained by the judicious use of the Bi-chloride and Bin-iodide of Mercury and the Iodide of Potassium.

Several cases of an intractable character, attended with intense pain in the head, cerebral symptoms and partial paralysis, have occurred in my hospital practice during the past fifteen months, and have been relieved by mercurials and the Iodide of Potassium.

One sixteenth of a grain of the Bichloride or of the Bin-iodide of Mercury has been administered in combination with Iodide of Potassium three times a day. In the severest cases of nervous derangement the Iodide of Potassium has been used freely, in doses varying from one to two scruples three times a day.

CASE IV.—*Dementia, Paralysis and Death; Clots in Corpora Striata and Optic Thalami.*

In the other case the patient, a negro-woman, was brought into the hospital in a dull listless, speechless state, with loss of muscular power, and want of co-ordination of the muscular movements, and it was said by her companions that she had been the victim of sorcery or witchcraft. The disease was said to have been

suddenly induced in a state of health, by an aged negress who practiced witchcraft.

After death it was found that blood-vessels had been ruptured, and blood extravasated into the grey matter and nervous structures of the *optic thalami* and *corpora striata*. The patient was a large stout old woman, apparently near seventy years of age, and the ruptured blood-vessels were found to be degenerated, having undergone fatty degeneration. It is possible that the rupture of the blood-vessels may have been the result of some unusual mental or physical effort.

As the practice of sorcery and witchcraft amongst the negroes in certain sections of the South, is thought to have been revived and extended since the war, we reproduce one of the fullest and most accurate accounts of the superstitious practices of the negroes.

The following very curious account of the extraordinary superstition of the African race, was transmitted by the agent of Jamaica to the Lords of the Committee of Privy Council, and by them subjoined to their report on the slave trade; and it is said to have been the result of the diligent researches and accurate pen of Mr. Long.

The term *Obeah*, Obiah, or Obia, (for it is variously written), we conceive to be the adjective, and Obe or Obi the noun substantive: and that by the word Obia—men or women, are meant, those who practice Obi. The origin of the term we should consider as of no importance in our answer to the questions proposed, if, in search of it, we were not led to disquisitions that are highly gratifying to curiosity. From the learned Mr. Bryant's * Commentary upon the word Oph, we obtain a very probable etymology of the term.—A serpent in the Egyptian language was called Ob or Aub—(Obion is still the Egyptian name for a serpent.—Moses, in the name of God, forbids the Israelites ever to inquire of the demon Ob, which is translated in our Bible, Charmer or Wizard, Divinator and Sorcilegus.—The woman at Endor is called *Oub* or *Ob*, translated Pythonissa; and *Obbaiois* (he cites from *Horus Apollo*) was the name of the Basilisk or Royal Serpent, emblem of the sun, and an ancient oracular Deity of Africa. This derivation, which applies to one particular sect, the remnant probably of a very celebrated religious order in remote ages, is now become in Jamaica the general term to denote those Africans who in that Island practice witchcraft or sorcery, comprehending also the class of what are called Myal-men, or those who, by means of a narcotic potion, made with the juice of an herb (said to be the branched *Catalpa* or species of *Solanum*) which occasions a trance or profound sleep of a certain duration, endeavor to convince the deluded spectators of their power to re-animate dead bodies.

"As far as we are able to decide from our own experience and information, when we lived in the Island, and from the current testimony of all the negroes we have ever conversed with on the subject, the professors of Obi are, and always were, natives of Africa, and none other; and they have brought the science with them from thence to Jamaica, where it is so universally practiced, that we believe that there are few of the large estates possessing native Africans, which have not one or more of them. The oldest and most crafty are those who usually attract the greatest devotion and confidence; those whose hoary heads, and somewhat pecuniary harsh and forbidding aspect, together with some skill in plants of the medicinal and poisonous species have qualified them for successful imposition upon the weak and credulous. The negroes in general, whether Africans or Creoles, revere, consult and fear them: to these oracles they resort, and with the most implicit faith, upon all occasions, whether for the cure of disorders, the obtaining revenge for injuries or insults, the conciliating of favors, the discovery and punishment of

* Mythology, vol. 1, pages 48, 475 and 478.

the thief or the adulterer, and the prediction of future events. The trade which these imposters carry on is extremely lucrative; they manufacture and sell their Obies adopted to different cases, and at different prices. A veil of mystery is studiously thrown over their incantations, to which the midnight hours are allotted, and every precaution is taken to conceal them from the knowledge and discovery of the white people. The deluded negroes, who thoroughly believe in their supernatural power, become the willing accomplices in this concealment, and the stoutest among them tremble at the very sight of the ragged bundle, the bottle or the egg-shells, which are stuck in the thatch, or hung over the door of a hut, or upon the branch of a plantain tree, to deter marauders. In cases of poison, the natural effects of it are by the ignorant negroes, ascribed entirely to the potent workings of *Obi*. The wiser negroes hesitate to reveal their suspicions, through a dread of incurring the terrible vengeance which is fulminated by the *Obeah-men* against any who should betray them; it is very difficult therefore, for the white proprietor, to distinguish the *Obeah professor* from any other negro upon his plantation; and so infatuated are the blacks in general, that but few instances occur of their having assumed courage enough to impeach these miscreants. With minds so firmly prepossessed, they no sooner find *Obi set for them* near the door of their houses, or in the path which leads to it, than they give themselves up for lost. When a negro is robbed of a fowl or a hog, he applies directly to the *Obeah* man or woman, it is then made known among his fellow blacks, that *Obi is set for the thief*; and as soon as the latter hears the dreadful news, his terrified imagination begins to work, no resource is left but in the superior skill of some more eminent *Obeah-men* of the neighborhood, who may counteract the magical operations of the other; but if no one can be found of higher rank and ability, or after gaining such an ally, he should still fancy himself affected, he presently falls into a decline, under the incessant horror of impending calamities. The slightest painful sensation in the head, the bowels, or any other part, any casual loss or hurt, confirms his apprehensions, and he believes himself the devoted victim of an invisible and irresistible agency. Sleep, appetite and cheerfulness forsake him, his strength decays, his disturbed imagination is haunted without respite, his features wear the settled gloom of despondency; dirt, or any other unwholesome substance become his only food, he contracts a morbid habit of body, and gradually sinks into the grave. A negro, who is taken ill, inquires of the *Obeah-man* the cause of his sickness, whether it will prove mortal or not, and within what time he shall die or recover? The oracle generally ascribes the distemper to the malice of some particular person; but if no hopes are given of recovery, immediate despair takes place, which no medicine can remove, and death is the certain consequence. Those anomalous symptoms, which originate from causes deeply rooted in the mind, such as the terrors of *Obi*, or from poisons, whose operation is slow and intricate, will baffle the skill of the ablest physician.

"Considering the multitude of occasions which may provoke the negroes to exercise the powers of *Obi* against each other, and the astonishing influence of this superstition upon their minds, we cannot but attribute a very considerable portion of the annual mortality among the negroes of Jamaica to this fascinating mischief."

"The *Obi* is usually composed of a farrago of material, most of which are enumerated in the Jamaica law,* viz., blood feathers, parrots beaks, dogs teeth, alligators teeth, broken bottles, grave dirt rum and egg-shells."

Pere Labat,† in his history of Martinico, has mentioned some instances of this practice which are very remarkable.

"It may seem very extraordinary, that a practice alleged to be so frequent in Jamaica should not have received an earlier check from the legislature. The truth is, that the skill of some negroes, in the art of poisoning, has been noticed here since the chemists became much acquainted with them. Sloan and Barham, who practised physic in Jamaica in the last century, have mentioned particular instances of it. The secret and insidious manner in which this crime is generally perpetrated, makes the legal proof of it extremely difficult. Suspicions therefore have been frequent, but detections rare; these murderers have sometimes been brought to justice, but it is reasonable to believe that a far greater number have escaped with impunity. In regard to the other and more common tricks of *Obi*, such as hanging up feathers, bottles, egg-shells, etc., etc., in order to intimidate negroes of a thievish disposition from plundering huts, hog-styes or provision grounds, these were laughed at by the white inhabitants as harmless stratagems, contrived by the more sagacious for deterring the more simple and superstitious blacks, and serving for much the same purpose, as the scare-crows which are in general used among our English farmers and gardeners. But in the year 1763, when a very formidable insurrection of the Koromantyn or Gold Coast negroes broke out in the parish of St. Mary, and spread through almost every other district of the Island, an old Koromantyn negro, the chief instigator and oracle of the insurgents in that parish, who had administered the fetish or solemn oath to the conspirators, and furnished them with a magical preparation which was to render them invulnerable, was fortunately apprehended, convicted, and hung up with all his feathers and trumperies about him; and his execution struck the insurgents with a general panic, from which they never afterwards recovered. The examinations which were taken at that period, first opened the eyes of the public to the very dangerous tendency of the *Obeah* practices, and gave birth to the law which was then enacted for their suppression and punishment. But neither the tenor of this law, the strict investigation which has ever since been made after the professors of *Obi*, nor the many examples of those who from time to time have been hanged or transported, have hitherto produced the desired effect. We conclude, therefore that either this sect, like others in the world, has flourished under persecution; or that fresh supplies are annually introduced from the African Seminaries.

*Passed 1760.

† Tome 11, p. 59, 447, 490, 506.

Bryan Edwards in his "*History, Civil and Commercial, of the British Colonies in the West Indies* (1806, vol. ii. p. 303"), quotes the following narrative from a planter in Jamaica, whom he characterizes, as a gentleman of the strictest veracity.

"Upon returning to Jamaica in the year 1775, he found that a great many of his negroes had died during his absence; and that of such as remained alive, at least one-half were debilitated bloated and in a very deplorable condition. The mortality continued after his arrival, and two or three were frequently buried in one day; others were taken ill, and began to decline under the same symptoms. Every means were tried by medicines, and the most careful nursing, to preserve the lives of the feeblest; but in spite of all his endeavors, this depopulation went on for above a twelve months longer, with more or less intermission, and without his being able to ascertain the real cause, though the *Obeah practice* was strongly suspected, as well by himself as by the doctor, and other white persons upon the plantation, as it was known to have been very common in that part of the Island, and particularly among the negroes of the *Papaw* or *Popo* country. Still he was unable to verify his suspicions, because the patients constantly denied their having any thing to do with persons of that order, or any knowledge of them. At length a negress, who had been ill for some time, came one day, and informed him, that feeling it was impossible for her to live much longer, she thought herself bound in duty, before she died, to impart a very great secret, and acquaint him with the true cause of her disorder, in hopes that the disclosure might prove the means of stopping that mischief, which had already swept away such a number of her fellow-slaves. She proceeded to say, that her step-mother (a woman of the *Popo* country, above eighty years old, but still hale and active) had put *Obi* upon her, as she had also done upon those who had recently died; and that the old woman had practiced *Obi* for as many years as she could remember.

"The other negroes of the plantation, no sooner heard of this impeachment, then they ran in a body to their master, and confirmed the truth of it, adding, that she had carried on this business ever since her arrival from Africa, and was the terror of the whole neighborhood. Upon this he repaired directly, with six white servants, to the old woman's house, and forcing open the door, observed the whole inside of the roof, (which was of thatch), and every crevice of the walls, stuck with the implements of her trade, consisting of rags, feathers, bones of cats, and a thousand other articles. Examining further, a large earthen pot or jar, close covered, was found concealed under her bed. It contained a prodigious quantity of round balls of earth or clay of various dimensions, large and small, whitened on the outside, and variously compounded, some with hair or rags, or feathers of all sorts, and strongly bound with twine; others blended with the upper section of the skulls of cats, or stuck round with cats teeth and claws, or with human or dogs teeth, and some glass beads of different colors: there were also a great many egg-shells filled with a viscous or gummy substance, the qualities of which he neglected to examine, and many little bags stuffed with a variety of articles, the particulars of which cannot at this distance of time be recollected. The house was instantly pulled down and with the whole of its contents committed to the flames, amidst the general acclamations of all his other negroes. In regard to the old woman, he declined bringing her to trial, under the law of the island, which would have punished her with death; but from a principle of humanity delivered her into the hands of a party of Spaniards, who, (as she was thought not incapable of doing some trifling kind of work), were very glad to accept and carry her with them to Cuba. From the moment of her departure, his negroes seemed all to be animated with new spirits, and the malady spread no further among them. The total of his losses in the course of about fifteen years preceding the discovery, and imputable solely to the *Obeah practice*, he estimates at least one hundred negroes."

CASE V.—*Epilepsy.—Death.—Atrophy and Induration of the Cerebellum.*

The patient, a young man, died suddenly in an epileptic fit; or rather the patient became comatose after the convulsions and lay in an insensible state for eighteen hours before death.

The cerebrum was normal in its structure and appearance; the cerebellum on the other hand, was atrophied, and the grey and white matter hardened.

The grey matter of the cerebellum was greatly diminished in amount, and the hardening was of the most marked character.

A large amount of serous fluid, was effused between the dura-mater and the arachnoid membranes of the brain and spinal cord. The liver spleen and alimentary canal, appeared to be healthy ; but both kidneys were atrophied, being not more than one-half the natural size, with numerous cysts, (containing light yellow fluid), scattered over the surface, and throughout the secreting structures ; the surface of the kidneys presented a granular appearance. Both kidneys presented a pale color, more nearly resembling that of fatty degeneration than the normal color. The kidneys have been preserved in the Pathological Department of the Museum, University of Louisiana.

The results of the autopsy in this case are interesting, for in the great proportion of the brains of epileptic patients that have been examined, the structure of that organ has been said to have been in all respects healthy ; and this terrible disease has been regarded as merely functional, the particular seat of lesion not being determined.

It must be admitted, however, that in some cases the brain and its membranes have been found in every state of disease to which these parts are liable ; the former being indurated, or softened, the seat of various structural diseases, as abscess, cancer or tubercle, the latter being inflamed, thickened or ossified ; and Wenzel has stated that the epileptic state has been invariably found associated with a morbid state of the *pituitary* body, in the *cella tursica*.

The occurrence of the epileptiform convulsion in this case, in connection with the marked pathological alterations and degenerations of the kidneys, appear to support the theory of this disease proposed by Dr. Todd. He referred the particular features of epileptic seizures to the general accumulation of a morbid material in the blood, from the cessation or impairment of the depurative functions of the kidneys, until it reaches such an amount as to operate upon the brain, as it were in an explosive manner, exciting a highly polarized state of the brain, or of certain parts of it, so that the nervous power is discharged upon certain other parts of the cerebro-spinal centre, in such a way as to give rise to the phenomenon of fit. A connection has clearly been established between defective renal action, the presence

of urea in the blood and epileptic convulsions; and in the present case, the most rational explanation appears to be to refer the fatal convulsions, to the arrest of the eliminative action of the kidneys.

This case illustrates in a striking manner, the importance of a critical examination of the amount, character and chemical constitution of the urine, in each case of epilepsy. Such investigations should not be limited to the paroxysms, but should extend also to the free intervals.

With reference to the treatment of epilepsy, it is important that the physician should make minute inquiry into the condition of all the organs and functions and habits of the patients; and establish the treatment upon correct diagnosis and general principles. Almost every potent agent in the *materia medica* has been recommended for the cure of epilepsy, and cures have been recorded sustaining the recommendation; but it will be found upon a careful study of the disease, that a certain per cent. of cases, get well gradually and spontaneously without the use of drugs; in females the affection is sometimes connected with derangement of the menstrual function, and when that is regulated, the disease may disappear, without farther treatment; in males masturbation and excessive venery may be causes of epilepsy which are to a certain extent controllable. Some cases are clearly referable to gastric and intestinal irritations and derangements, which may be removed or greatly benefitted by treatment; whilst a certain proportion of cases are dependent upon structural alterations of the kidneys, and upon both structural and functional derangements of the cerebro-spinal nervous system, and often march steadily on to insanity, idiocy or sudden death, uninfluenced by the most potent drugs. When epilepsy is clearly the result of the action of the syphilitic poison, the disease may be cured by mercurials and iodide of potassium.

Minute attention to the menstrual function, to the moral and mental habits of the patients, to the state of the digestion and bowels with rigid rules for diet, exercise and sleep, are all important.

Amongst drugs, Bromide of Potassium holds at present a high place with some practitioners; and certainly does good in some

cases, but like all remedies in this affection, its action is uncertain, and many cases are wholly uninfluenced by it. In the case of a stout young man, twenty-six years of age, afflicted with epilepsy, and treated in this hospital before the Medical Class, Bromide of Potassium in large and repeated doses were tried, without avail; as much as three drachms (180 grains) having been administered just before a paroxysm, without any perceptible effect. I have employed the Bromide of Potassium, with marked benefit in some cases, whilst in others, no beneficial effects could be perceived. I have employed Bromide of Potassium in my wards, with apparent good effects in the treatment of delirium tremens. Milk punch and nutritious diet was also of great benefit in such cases, for the patients as a general rule had neglected their aliment. A mixture of tincture of Assafœtida, fluid extract of Valerian, and Acetate of Ammonia, had also given satisfactory results in the treatment of delirium tremens.

Arsenic, Nitrate of Silver, Atropia and Iron, deservedly hold the first place in the treatment of epilepsy, especially when combined with proper exercise of mind and body, change of climate, sea-voyage, and foreign travel.

The following case of convulsive nervous disease, although not occurring in this hospital, is of so singular a nature, that we record it in connection with these investigations upon the Diseases of the Nervous System.

CASE VI.—Remarkable Case of Cerebro—Spinal Disease, attended with Convulsions, recurring at short Intervals, and attended with Protracted Somnolence.

The patient, Miss Susan C. Godsa, was exhibited at the Mansion House, in the City of Nashville, during the month of November, 1867; and at the request of her relatives, and of a number of physicians a careful examination of the singular phenomena presented by this unfortunate young woman was made.

History of the case as detailed by her relatives.—Miss Susan C. Godsa, now in her twenty-seventh year, has been asleep for the last eighteen years, only awaking at certain intervals in the day, and then only remaining awake from seven to ten minutes. Native of Gibson Co., Tennessee. Her father was a respectable hard working blacksmith, noted for his great muscular strength, and general health and vigor of body. The only members of her immediate family now living, are a married sister and brother, who are with her at the Mansion House and appear to be in the enjoyment of good health. Up to the time she was six years old, she was remarkable for her sprightliness and vivacity of manner, and the general cheerfulness of her disposition. During her sixth year, she was attacked with ague and fever, with which she suffered for three years.

The physician who attended her, failed to arrest the disease. Her eyelids became affected in such a manner, as to fall over her eyes, defying every effort on her part to open or close them; this affection however, appeared to be only temporary in its nature, and disappeared, whilst the chills continued.

Another physician was called in, who administered for the relief of the chills, large doses of quinine and morphine, in doses which he stated would have killed any other person. The

exact amount of quinine was not remembered, and appeared to have been excessive for a child of nine years: as forty pills were made, each of which was of the size of a buck-shot, and five or six of these were administered at a dose.

After the continuance of the chills and fever for three years, and at the age of nine years, and just after these large doses of quinine, Miss Godsa, fell into the sleeping state, which rendered her case so remarkable.

The physician who had first attended her, was again called in, and after an examination, attributed her condition to the medicines which she had taken, and stated that it would require at least seven years for her system to be cleared of the powerful doses which she had been required to swallow.

During the period of three years, she continued to have violent attacks of chills and was attended by various physicians, none of whom afforded her relief. Finally after a temporary improvement, Miss Godsa was compelled to betake herself to bed where she has since remained.

When the disposition to long slumbers began to manifest itself, she was frequently seized with painful cramps, and suffered great agony. Her heels would be suddenly driven up towards the head, and then thrust back again suddenly, the motion appearing to be entirely involuntary. Since the patient has been confined to bed she has grown three feet, the present height being five and one-half feet.

She never asks for food, and eats only when strongly urged by her attendants. A small quantity of water imbibed at long intervals, satisfies her thirst. She is fond of tea and coffee and drinks these beverages with relish. She expresses no choice as to food, and eats without objection, what is given her. She never complains voluntarily, though when asked whether she suffers any pain, complains of pain in the head, back and left side, and of the nervous tooth-ache; she has said that she would rather be dead, than thus linger out her existence. Her periods of consciousness are said to be very regular; waking at 6 A. M. and every hour thereafter until 12 M., when she falls into a slumber which lasts until 3 o'clock P. M.; returns to consciousness at the time of the setting of the sun; waking again at 9 P. M., and once or twice before morning. Her finger and toe-nails are said, not to have grown for the last eighteen years. The strength is not sufficient to bear the weight of the body.

Miss Godsa, has resided during her somnolent state, in Obion county, six miles South of Hickman, Ky. Those having her in charge, have been led to hope that travel will benefit her health, and the expenses are to be defrayed by the exhibitions.

The above facts were corroborated by several respectable citizens of Hickman, Ky., and one year after this examination, as I was passing through this place, on my way to New Orleans, I learned that Miss Godsa was in feeble health and dropsical. The exhibitions did not defray the travelling expenses, and the relatives had returned with her to Obion County.

Results of the Examination of Miss Susan C. Godsa.—I examined Miss Godsa, in the presence of various medical men and students, upon two occasions; each examination extended over a period of two hours.

Upon entering the room, a delicate frail woman, with dark hair, combed neatly back from her forehead, was observed reclining upon a small bed, with her eyelids closed, and her arms crossed upon her breast. The features of the face presented the appearance of repose and of deep sleep; whilst the arms and hands crossed upon the breast, were incessantly agitated by spasmodic contractions of the muscles. The incessant shaking of the hands which agitated the bed-clothing, appeared to suffer no abatement or periods of repose.

Shaking, loud talking and the magneto-electric interrupted current, failed to arouse the patient, and when the eyelids were drawn back, the pupils were expanded, but responded to the stimulus of light and slowly contracted.

At the expiration of eight minutes, the head and neck were thrown violently from side to side, by rapid lateral convulsive motions of the muscles.

These convulsive jerking motions of the head from side to side, were so rapid and violent, as to shake the entire bed upon which she lay, and even to jar the floor of the room. The respiration appeared to be impeded, and the face grew livid. Such was the rapidity of the motions that it was impossible to distinguish the features, and the face presented a dim constantly changing outline.

The convulsive movements of the head lasted about one minute, and were followed by a short period of repose, of about the same duration, when the muscles of the back, neck and trunk generally were powerfully contracted, raising the head in short spasmodic jerks from the pillow, and drawing it forcibly forwards upon the chest, until the chin rested upon the breast. It was found even with the exertion of considerable force, wholly impossible to straighten the bent neck. During these tonic contractions of the muscles, as the head was drawn upon the breast, the inspirations were attended with peculiar spasmodic gasping croupy sounds issuing from the rigid larynx and throat. These strange sounds varied in number during each paroxysm from ten to fourteen.

The spasms of the muscles ceased as suddenly as they had commenced, the head fell upon the pillow, only to give rise again, to the peculiar round of phenomena, with the same suddenness and precision of a piece of machinery, working back and forth in a socket and gauged to regular and set distances.

During both series of convulsive and tetanic movements the patient remained unconscious. We were told however, that the spasm of the head and neck sometimes occurred during the few brief moments, when the patient was awake, accompanied by the same peculiar sound from the throat, which seemed to give her great pain, and often apparently to threaten her life with strangulation. These phenomena were repeated in the order mentioned at regular intervals, with the suddenness and precision of a piece of machinery.

Miss Godsa awoke at intervals of about one hour, during these examinations, cast her deep blue eyes around the room, noticed every person and recognized all her attendants,

called them by name, and answered questions rationally. The periods of consciousness lasted only a few minutes; the voice was weak and trembling, but the replies to questions were rational. We gathered from certain remarks, that the heart of the "*Sleeping Beauty*," was not insensible to the tender passion.

During these periods of consciousness, the patient expressed no desire for food, but invariably expressed a desire for water, and when questioned, complained of pain in the back, head and stomach.

The urinary secretion was examined, and found to be scant and high colored, and not deficient in urea.

This curious case presents many points of profound interest; and an exhaustive discussion of its nature and causes, and of its relations to the action of malaria, and of large doses of quinine, and of the seat and cause of those wonderful automatic and stereotyped mechanical movements, would consume more space than these "Clinical Memoranda" afford.

V CASE VII.—*Traumatic Tetanus; death; cerebro-spinal system examined after death; structural lesions discovered.*—Julia Jackson, colored, aged nineteen, stout athletic negro woman. Has never borne children.

On the 5th of March, 1869, a clothes-line pole, fell upon her left shoulder, and a splinter passed downwards and forwards, under the skin, over the deltoid muscle. On the 15th of March, after the wound had apparently entirely healed (the injury was very slight, and the splinter was removed immediately after the reception of the blow), the jaws became stiff, and tetanic symptoms manifested themselves.

Entered the Charity Hospital, New Orleans, March 19th, two weeks after the reception of the injury, external wound healed. Locked jaw and tetanic spasms, body drawn towards the left arm and side; that which had been injured. Patient complained of pain in left arm, shoulder and side.

The attending physician administered Opium and Bromide of Potassium, beef-tea and brandy. One grain and a half of Opium and ten grains of the Bromide of Potassium every three hours. The opium appeared to quiet the spasms, and the patient enjoyed some rest.

On the 21st of March, this plan of treatment was changed, and one-twelfth of a grain of Strychnine, administered every four hours. The patient took only two pills, and died soon after the administration of the second pill, on the 22d of March. The contraction of the muscles of the left side and arm, continued up to the moment of death; and the patient appeared to die from spasm of the respiratory muscles and asphyxia. The preceding facts were furnished by the attending physician:

Autopsy six hours after death.—The brain and entire spinal cord were removed from this stout young negro woman, whose form

possessed the fulness and roundness of great muscular power and the most robust health.

The pia-mater of the brain and spinal cord, were greatly congested with blood; the congestion was greatest at the base of the brain around the medulla oblongata. The grey and white matter of the cerebrum presented the usual consistence, but the cerebellum appeared to be somewhat altered, being softer than usual. The grey matter of the spinal cord, was universally congested, whilst the white matter was softened. The white matter protruded from the smallest puncture of pia-mater and arachnoid membrane of the cord.

The most marked alterations were discovered in the floor of the fourth ventricle. The blood-vessels of the fourth ventricle were not only greatly congested, but a small quantity of blood was effused about the middle and upper third of the fourth ventricle, beneath the arachnoid membrane, and into the meshes of the pia-mater.

The internal viscera were healthy, and upon careful examination presented nothing abnormal, with the exception of the dark colored blood resulting from the sudden arrest of the process of respiration.

The lung on the left side, was congested with dark blood and presented a marked difference in this respect from the right lung; which presented some congestion only in its most dependent portions. This condition of the left lung appeared to be due in a measure to the contraction of the muscles upon this side, and the consequent interference with respiration; but it is also probable that the impairment of the function of the pneumogastric nerve on this side, may have been one of the causes.

The seat of the wound was examined with great care. Two cicatrices were observed, the one of entrance, near the upper border of the deltoid, and the other near the axillary fold.

An incision between these two points, revealed thickening of the texture, but the injury had healed entirely.

Continuing the incision downwards, an abscess, with indurated walls, and filled with about two drachms of thick foetid bloody pus, or rather a grumous fluid, apparently resulting from the liquefaction or disintegration of the textures, was revealed oc-

cupping the upper surface of the biceps muscle. Within the abscess, two pieces of cloth were found, about half an inch in diameter, and apparently detached from her calico dress and undergarment, by the splinter, and driven into the flesh. These particles of cloth were the only apparent cause of the abscess, as no splinter or other foreign body was discovered upon careful and minute dissection.

This case presents the following points of interest :

1st. The strychnine accomplished no good, and appeared rather to aggravate the symptoms.

2d. The disease appeared to have been caused by the presence of the particles of clothing. If the existence of the abscess causing the tetanic spasms had been diagnosed during life, it might have been possible to relieve the patient by laying it open, and exciting healthy supuration.

3d. The muscles were most affected upon the side to which the injured arm was attached.

The nerves coming off from the muscles around the abscess, were more congested than those supplying healthy structures; and it appeared that the irritation was reflected most strongly upon those muscles supplied with motor and sensitive nerves from the same lateral half of the spinal cord.

4th. The pus, or rather fœtid fluid contained in the abscess differed widely from the product of healthy inflammation, and the absorption of this matter, may have been one of the exciting causes of the tetanic spasms.

5th. The medulla oblongata, and spinal cord, exhibited palpable lesions, in the congestion of the blood-vessels, and the softening of the white matter.

CASE VIII.—*Traumatic Tetanus; Life of the patient preserved temporarily by Marshall Hall's Ready Method; post-mortem examination, Structural Alteration of Cord.*

Although this case did not occur in the Charity Hospital, it is nevertheless of great interest in its relations to the preceding case, and in this connection was brought to the notice of the Medical Class of the University of Louisiana.

J. A. Rouk, Company K., 1st Alabama Cavalry, Hagan's Regiment; private; age, twenty-one; black hair, fair complexion;

nervous temperament; admitted into the Third Georgia Hospital, Augusta, Ga., February 11, 1865. Was wounded February 2d, in a skirmish, near Alendale, S. C., by a ball from a Spencer rifle. The ball passed through the abdominal muscles of the right side, one inch above the crest of the ileum, entering anteriorly. Distance from one orifice of the wound to the other, about four inches. From all appearance the ball passed entirely within the muscular structures of the wall of the abdomen, and did not penetrate the cavity. Patient's health good, before the reception and at the time of this wound. After being wounded, he was sent to the Division Hospital, in which he remained nine days, moving along with the hospital in ambulance to Augusta, Georgia. During this time the wound was dressed once a day, and kept moist with a wet rag. Patient felt well during that time, but when entering the hospital, complained of cramps (to use the patient's own expression) in the wounded side and back.

On the 12th of February, opisthotonos gradually commenced. From 10 o'clock A. M., one tea-spoonful of Laudanum (Tincture of Opium) was administered every one and a half hours, until 6 o'clock P. M., (the whole quantity of Laudanum given up to this time was about one wineglassful, which produced no perceptible effect.) No medicine given during the night—patient slept very little. One natural evacuation of bowels this day.

February 13th. Trismus commenced this day, Chloroform was given by inhalation, which allayed the nervous irritation for about one hour. This was continued during the day, with the addition of one tea-spoonful of Chloroform, and another of Laudanum, administered internally every three hours, until three doses were taken, when the trismus increased to such an extent as to prevent deglutition. The Chloroform appeared to diminish the volume of the pulse. Respiration during the day, tolerably easy. The tongue, as far as could be seen, natural. Condition of skin natural, sometimes moist. Bowels constipated. Urine natural, in color and quantity.

February 14th. Trismus and opisthotonos increased. Respiration more labored. Injection of Turpentine and Castor Oil given with no effect. One tea-spoonful of Chloroform, Laudanum and

Ether, mixed in equal quantities, were given by the mouth, every three hours, with no perceptible effect.

February 15th. Tetanic symptoms increased. Respiration more labored—no evacuation of bowels. An enema composed of one tea spoonful each of Tincture of Camphor and Tincture of Opium (Laudanum) was given every three hours. No benefit appeared to be derived from this mode of medication and it was discontinued.

Patient continually kept under the influence of Chloroform, to relieve his sufferings—no sleep obtained without Chloroform.

February 16th. Symptoms increased in severity—deglutition more difficult—Chloroform continued by inhalation.

An attempt was made to administer egg-nogg, by the mouth, but failed—patient could not swallow, and immediately after the efforts, was seized by a violent tetanic spasm. In the spasm, the muscles of respiration became involved, which soon arrested the thoracic respiration, so that the latter function was only performed by the diaphragm and abdominal muscles. At length, however, these muscles also became involved, and respiration ceased entirely. The patient's face turned blue and livid, the black blood overcame the cerebro-spinal system, the eyes were fixed—all signs of life disappeared, and death from asphyxia appeared already to have taken place.

Artificial respiration after the method of Marshall Hall, was established and kept up for a few minutes, when the patient gradually revived. The spasms of the respiratory muscles also gradually relaxed, and after some time, the patient commenced to breathe again naturally.

At this time, two ounces of whisky with one teaspoonful of chloroform, were administered by enema. This was kept up with the addition of half a pint of beef-tea, every two hours until the evening; with the exception of the chloroform, the supply in the hospital being out.

Evening—patient more quiet—pulse 100; respiration more easy—conversed and swallowed half a glass of water. Patient remained in this comfortable condition, affected with an occasional slight spasm. About three o'clock, A. M., he asked for water—a little was given to him, which brought on another

slight spasm, during which he expired about ten minutes after taking the water. This spasm was similar in its nature to the one already described, and it is highly probable that if the method of artificial respiration, had been practiced, the life of the patient might again have been prolonged.

Autopsy six hours after death.—Spare but muscular man; rigor-mortis very strongly marked—hands contorted and fingers clenched; and feet twisted as in strychnine poisoning.

The brain and spinal marrow were carefully removed. The nerves leading from the spinal marrow, to the wound, were also carefully dissected and examined in situ. The entire mass of flesh surrounding the wound, was then examined, and together with the spinal cord and its nerves and muscular attachments were removed.

Condition of the wound.—The wound was a superficial flesh wound. The ball was a small one, apparently not larger than a pistol ball, and had passed directly through the structures without lacerating them.

When the tetanus first manifested itself, the discharge from the wound is said to have greatly diminished, and almost entirely disappeared. Several days before death, however, and up to the close of life, the wound secreted small quantities of pus. When the entire tract was laid open, it was found to be granulating throughout its entire extent. The granulations were carefully examined with a magnifying glass. They were small and rather pale. The wound was dryer than usual, that is there was less discharge than in healthy wounds.

Under the microscope, the pus presented an unhealthy appearance. The corpuscles were small, few in number and imperfectly formed, and amorphous granules abounded.

The wounded surface was surrounded or underlaid by a thick fibrous wall, the result of inflammatory action.

In the track of the ball, numerous sharp filaments of wool, were found sticking into the granulations, and passing in some cases, entirely through the fibrous wall, to the muscular structures beneath.

Nerves supplying the diseased parts.—These were dissected, and traced into the parts immediately surrounding the wound. These

nerves presented no distinct evidence of congestion or inflammation.

Spinal marrow.—The nerve leading from the diseased and wounded part, was the *last dorsal*. This sent off a branch to the *lumbar plexus*; for two inches above its junction with the spinal cord, the blood-vessels of the cord were engorged with blood, and the vessels presented a marked enlargement.

The congestion extended from thence, to the termination of the spinal cord, and the *corda equinæ* was also much congested. The thigh upon the affected (right side), had been quite stiff at the hip. The congestion was greatest upon the posterior surface of the cord.

Sections of the cord were made at various parts, from the junction of the medulla oblongata, with the *pons varioli*, to the termination of the spinal cord, and the grey matter presented a pinkish, deep colored congested appearance.

Both the grey and white substances, were examined carefully under the microscope, the nerve fibres presented the usual appearance; the cells of the grey matter appeared indistinct.

The blood-vessels of the grey matter were filled with red corpuscles.

This case presented the following points of interest:

1st. The restoration of the patient, after apparent death, by artificial respiration, was a matter of importance.

The life of the patient was prolonged at least eighteen hours by this method.

A large proportion of the cases of tetanus, terminate fatally from spasm of the respiratory muscles. If artificial respiration had been practiced the second time, it is probable that the patient would again have been restored. The narcotic effects of the Carbonic Acid of the blood, tends to overcome the spasms, and hence the possibility of instituting artificial respiration.

This subject is worthy of the most careful consideration, and of practical application in this terrible disease.

2d. The granulations and the pus of the wounded surface were imperfectly formed; and it is not unreasonable to suppose that the irritation of the injured nerves may have arisen in a measure from these unhealthy products of inflammation. The particles

of wool penetrating the tissues, may also have been exciting causes of the peculiar nervous disturbances. It is important that the most careful examination should be instituted of the wounded parts and products of the consequent inflammatory action.

3d. The grey matter of the spinal cord, was decidedly congested with blood; and the congestion was so great, as to render this portion of the cord of a decidedly reddish pink color.

Tetanic spasms are attended with great waste of the nervous and muscular elements, and especially of the former, as I have shown by careful analysis of the urinary excretion in this disease.

The grey cells of the spinal cord, and medulla oblongata, during the stages of action, excitement and change, need an increased and sufficient supply of blood.

4th. The tetanic spasms in this case, were attended with palpable lesions of the spinal cord; and the most prominent condition of this state was hyperæmia.

CASE IX.—*Paralysis; progressive failure of muscular and nervous power; Death; Structural Lesion in Spinal Cord.*

Negro-man —; aged forty-five years; native of Louisiana; has lived and worked all his life on a sugar plantation, where he was often necessitated to work in water, and was subjected to the action of malaria.

Admitted to Charity Hospital, January 8th, 1869; patient states that he has suffered during his life with frequent attacks of malarial fever, of the intermittent form; last July, whilst working every day in deep water, often without eating food until night, began to suffer with pains in different parts of his body, but more especially in the lower extremities; these pains grew worse from day to day, and about Christmas he found that he had lost the power of using his legs, not being able to walk without great difficulty.

During the summer and fall months, the patient had suffered much with cephalalgia and intermittent fever. Has never had syphilis. At the time of his admission suffered from constipation of the bowels; but the bowels were regulated under the use of Strychnia, Iron and Aloes.

Magneto-electric shocks, seemed rather to increase, than to benefit the loss of nervous power, and this agent was conse-

quently abandoned. The patient has been kept upon small doses of Strychnia and Iron, with benefit. At the present time, the patient has but little use of the lower extremities, cannot raise himself from a sitting to a standing posture, except by climbing as it were, up the bedpost, raising nearly the whole weight by the muscles of the arms and shoulders; after getting to an erect position, cannot take a step, without holding to a support; by the aid of two walking canes he can walk slowly across the floor, by moving his feet about two inches at a time, dragging his toes along the floor. Paralysis of the flexors of his legs in his efforts to walk, the feet appear to be raised by lifting the entire leg, by means of the muscles attached to the hips; subsultus tendinum in left leg. General sensation and reflex action, unimpaired; no failure of special senses; intellect as bright as is usual in his race; digestion normal; thoracic and abdominal viscera in healthy condition.

In this case, the prolonged action of malaria, repeated attacks of intermittent fever, together with the depressing effects of working in water, knee deep, were attended with rheumatic pains, gradual loss of power in lower extremities, constipation, general asthenia, subsultus tendinum in legs, and inability to rise from the sitting posture. It is possible that the affection of the spinal cord, may have been due to rheumatic inflammation of its membranes, as well as to the slow and prolonged action of malaria and other depressing agencies.

This patient died on the 6th of May, 1869. The powers gradually failed and he died apparently from exhaustion of the circulatory and respiratory systems.

The brain and spinal cord, were taken out and carefully examined. Nothing special was noticed in the cerebrum and cerebellum, but the pia-mater and arachnoid membrane of the spinal cord, in several portions, presented a light brownish discolored appearance, as if discolored by a weak solution of the Nitrate of Silver.

This discoloration was found to be due to the deposition of minute crystalline dark masses of hæmatin in the cellular tissue.

The blood-vessels of the pia-mater of the spinal cord, appeared to be larger and more numerous than normal.

When a section of the cord was made, the great and characteristic alteration was observed in the ganglionic matter. The grey matter, presented a pinkish appearance; under the microscope the grey cells were found not only to be greatly diminished, but many of them were entirely altered, being filled with colored granular masses, and some also contained oil globules. Masses of hæmatin, were also seen in the intermediate spaces. The blood-vessels (capillaries), were greatly increased in size, with thickened walls, to which colorless exudations and spindle-shaped corpuscles were attached. The change in the capillaries was marked.

CASE X.—*Loss of Muscular and Nervous Power—Paralysis—Death; Structural Lesions of Nervous System.* ✓

The history of this case, resembled in some respects, that of the preceding; the subject being in like manner, a negro man (aged 50 years); who had been working during the last two years upon a rice plantation, his duties compelling him to stand in water above his knees. Previous to this occupation, had been a healthy stout man.

During the spring months, he began to suffer from "rheumatism in the left knee," which extended to left elbow, and right knee and elbow, and the use of the extremities was gradually lost. The paralysis appears to have begun in the lower extremities, and the lower extremities were said to have been œdematous before being paralyzed.

In the month of August, the power of locomotion was lost, and the patient became bed-ridden.

The œdema of the lower extremities disappeared during rest; the rheumatic pains however, have continued to harass the patient up to the present time, and the muscles of the extremities have gradually emaciated, until they are now much reduced in size. Has had no trouble in defecation or urination.

At the present time skin warm and moist, temperature of axilla 99°·5, and patient lies on his back; subsultus tendinum, and pains in the shoulders, the former only occasionally, the latter persistent; paralysis of upper extremities, flexors of left arm partially contracted, paralysis of extensors of left arm, more complete than in right; extensors of lower extremities unaffected;

flexors paralyzed; tongue slightly furred; appetite good; bowels regular; respiration regular, about twenty per minute; pulse seventy-two, small.

The treatment has consisted of Iron and Strychnine; and the patient has gradually improved since his entrance into the hospital, and the power over the voluntary muscles, appears to be slowly returning. As in the preceding case, this patient had been exposed to the action of malaria, and to cold and wet in a low, unhealthy region; and in like manner, the gradual loss of power in the extremities, was preceded and accompanied by rheumatic pains, which were more decided, and attended with more marked local inflammation; in like manner there is asthenia, with no loss of sensation or intelligence. It appears to be reasonable to refer the nervous derangement to the same causes, in both cases.

The paralysis progressively increased, until the patient became utterly powerless, and was confined to bed.

The flexors of the fore-arm were firmly contracted; and the muscles of the fore-arms and legs wasted considerably. Strychnine and Iron, appeared to accomplish no good in this case, and death occurred March 31st, 1869. Up to the time of death, there was no alteration of sensation, notwithstanding the paralysis of motion.

Autopsy five hours after death.—The brain and spinal cord were carefully removed. The grey matter of the brain and spinal cord, was of a deep reddish grey color. Blood-vessels of arachnoid and pia-mater congested with blood. The arachnoid of the medulla oblongata and superior portion of spinal cord, was discolored, presenting the appearance as if it had been washed over with a weak solution of the Nitrate of Silver. Spinal cord somewhat atrophied, with the white matter firmer than usual, and the grey matter, softened.

The brain and spinal cord of a patient that had died with phthisis pulmonalis, were removed and compared with the one under consideration, and it was observed that it was far lighter in color; and it was especially observed that the grey matter of both the brain and spinal cord were far lighter. Spleen some-

what enlarged and softened. Liver of slate and bronze color, with a patch of incipient fatty degeneration.

Microscopical examination of Nervous Structures.—The colored portions of the spinal cord, were due to a deposit of coloring matters in the form of granules or crystalline masses in and around the meshes of the blood-vessels of the dura-mater. The coloring matter appeared to have been derived from the colored blood corpuscles.

The grey matter of the cerebellum, medulla, oblongata and spinal cord, was entirely changed in its appearance, as in the case of insanity and tetanus. It presented a deep reddish, greyish and pink color, from the great enlargement and increase of the capillaries. The ganglionic cells had disappeared to a great extent, and their place was occupied by enlarged capillaries. Masses of hæmatin were also discovered amongst the nervous structures. Many of the nerve cells were filled with granular matter.

Comparative examinations were made with a healthy brain and medulla and spinal cord, and it was thus clearly shown that the nerve cells in the diseased brain and spinal cord, were diminished and altered in the most marked manner, and appeared to be not one-fourth as numerous as in healthy nerve structures.

We have here as in the preceding cases, grounds for referring the aberrated nervous phenomena and paralysis during life, to palpable structural alterations of the ganglionic cells and capillaries.

CASE XI.—Negro-man, aged 63, a cooper by trade, who had been quartered in a low damp locality, with poor diet, consisting chiefly of salt pork and bread; habits intemperate. Has suffered for some months with pain in back, located chiefly in lumbar regions. About one month ago was attacked with intermittent fever of tertian type; suffered with three paroxysms, and up to the present time has been subjected to "light fevers at night." Suffered with constipation of bowels for two weeks from the first chill. Says that pains in the arms and knees came on about the time of the first chill, and these have gradually increased in intensity. During the last four weeks, the patient has gradually lost power in the upper extremities.

February 6th. The patient complains of sensations of cold in arms, and keeps them wrapped up in flannel; pains in lower extremities and back, in lumbar region; some subsultus tendinum in arms; paralysis of both arms and of extensors of fore-arms; want of full control of lower extremities; when walking inclines his body forwards, and walks with an unsteady swinging gait; complains of stiffness in the back, and of inability of standing erect; unable to rise from the sitting posture; unable to retain his water and fæces; involuntary micturition and defecation, occurring if he does not obey the calls of nature at once; areus senilis present; some enlargement of the parotid gland on the right side; no loss of sensation; tongue moist, back of tongue coated with yellow fur, tip and edges clean and red; appetite good, bowels regular; slight cough with bronchial expectoration; sounds of heart feeble, and not well defined; pulse soft, weak, irregular and intermittent, eighty-four to the minute.

The patient was put on Cod-Liver Oil, Strychnine and Iron, with nutritious diet, and the arms rubbed with Volatile Liniment combined with minute portions of Strychnine.

Patient continued to improve slowly, with an increase of power in the arms, and was able to get the left hand to his mouth in eating, until the 15th of February, when he had a chill, followed by fever. On the night of the 15th, the patient took ten grains of Blue Mass, which was followed by fifteen grains of the Sulphate of Quinia, on the 16th. The bowels were moved frequently and the discharge passed involuntarily; and the patient appeared much exhausted; and in sleeping the left cheek appeared flabby, and there was a puffing of the left buccinator during respiration.

Stimulants and nutritious diet appeared to exert no beneficial effects, and the patient gradually sank and died on the 18th. Consciousness and intelligence were retained to the last moment.

Autopsy three hours after death.—The post-mortem was performed three hour after death, and the brain and spinal cord, and viscera, exhibited to the Medical Class. Structures anæmic; heart pale and apparently undergoing fatty degeneration. The degeneration appeared to be greatest in the muscular structures of the auricles. Under the microscope, the fat globules were more abundant in many portions of the heart, than in health,

but the muscular fibres were generally healthy in appearance, and presented well marked striæ; the oil globules were most abundant between the muscular fasciculi.

Nothing abnormal was discovered in the valves of the heart and pulmonic artery and aorta, the feeble irregular action of the heart, with its abnormal sounds during life, were clearly referable to the anæmic condition of the blood, and to incipient fatty degeneration.

All the cavities of the heart contained clots firmly attached to the muscular columns, and valvular cords. The right auricle was especially distended with an enormous clot, which when removed presented a complete cast of its interior. These clots were composed of two portions; a well defined fibrous, light colored dense elastic portion and coagulated blood. From their compound and luminated structure, they had evidently been partly formed during the last hours of existence. The spleen was enlarged to twice the size, and slightly softened. The liver and alimentary canal appeared healthy; so also the kidneys.

The affected muscles were exhibited, and presented a red, healthy appearance quite different from that of muscles undergoing fatty degeneration, or progressive atrophy. After careful microscopical examination, it was impossible to discover any marks of disease in the muscles, even in those which had been most completely paralyzed.

The entire brain and spinal cord were exposed and exhibited to the Medical Class. To the naked eye, no structural alterations could be perceived upon the exterior. There were no marks of inflammation of the membranes and no deposit or tumor, or abscess, which would account for the paralysis of the arms, and of the extensors of the fore-arms, and inability to rise from the sitting posture, and loss of power in the lower extremities, and want of control over the bladder and sphincter of the anus and rectum, during life.

Great difficulty is experienced in such examinations, as the modes of hardening the nervous structures, and the act of making sections of the brain and spinal cord, may, if not carefully performed, lead to deceptive appearances and erroneous conclusions. In many cases pathologists have failed to detect well

marked lesions of the cerebro-spinal system, in the paralysis of lead-poisoning, of mercurial cachexia, and in the tetanus produced by wounds and stychnia.

The cerebral functions in this case was unimpaired, and sensation and reflex action were intact; it appeared reasonable to refer the loss of power, chiefly to some lesion of the moter ganglia of the spinal cord. And as the upper extremities were more affected than the lower, whilst the impulses of the will were unimpaired, and sensitive impressions were communicated with the usual intensity, it seemed most reasonable to refer the lesion to some alteration or loss of power in the ganglionic cells of the anterior horns of the spinal cord, which may be considered as the origin of the anterior roots of the moter nerves.

Microscopical investigation was directed to the determination of the condition of the ganglionic cells of the anterior horns of the spinal cord; it appeared that they were diminished in number. The grey matter of the spinal cord also presented a redder color than in health, and the capillaries supplying the ganglionic cells were larger, and their walls thicker than in healthy nervous structures.

CASE XII.—*Paralysis of Lower Extremities, following Epileptic Seizures; gradual improvement under the use of Tonics and Electricity.*

William Aul; aged fifty-five years; height, five feet seven inches; weight 180 pounds; sandy hair; color of eyes, greyish yellow; fair complexion; native of Charleston, South Carolina; occupation, overseer on plantation. Has lived in this State, on the banks of the Mississippi River since 1849. Was attacked according to his statement with congestive chill and convulsions in 1865. The convulsions which appeared to be epileptic recurred at long intervals.

Sixteen months before entering the Charity Hospital, the patient states, that whilst in the act of striking a snake, he fell, and since that time his control over the lower limbs and his ability to stand and walk has progressively diminished, and at the end of four months he was compelled to use crutches; and was finally confined to his bed from the loss of power in the lower extremities. The epileptic seizures have occurred monthly. Ad-

mitted into the Charity Hospital February 8th, 1869. At this time the patient was suffering with fever and diarrhœa; which symptoms were relieved in a few days. At the time of his admission was confined to the bed, on account of the loss of power in the lower extremities. Whilst lying in bed, manifests both muscular power and sensation in the lower extremities being able to draw the limbs up with considerable power; but is unable to walk, the lower extremities apparently being under no control in the standing posture. The upper extremities have lost power, but not to so great an extent as the lower, and are to a greater extent under the control of the will. Complexion clear, and general appearance, that of health; complains of pain in back of head and in the face. Vision dim, and the patient says that he has a sensation of dizziness or turning round in his head. Whilst sitting up the head inclines to fall forward. Under the use of Iron, Strychnine and Magneto-Electricity, the patient gradually improved, and was able to walk about the ward, supporting himself in a measure by his hands on the bed-posts.

In the month of June the patient was so far improved that at his own request he was discharged and returned home. The temperature in this case did not vary from that of health, being 98.6 in the hand and 99.25 in the axilla. The urine also appeared to be normal in amount, color and specific gravity.

CASE XIII.—*Lead Colic, Epilepsy, Paralysis, Fatal Termination.* ✓

Ralph Bodilly, aged sixty-eight years, height five feet, eight and three-fourth inches, weight 170 pounds; auburn hair, now grey; hazel eyes; fair complexion; native of Ohio; has resided in New Orleans thirty years; painter by occupation. Fifteen years ago had the first attack of lead colic, and has had six attacks since, the last attack occurred in December, 1867.

The patient states that he was greatly prostrated in this attack. In the month of June 1868, had an attack of fever which was followed by diarrhœa and dysentery of an obstinate character. About the time of the appearance of the dysentery the patient began to lose the use of the lower extremities; walked with great difficulty, and finally had to use two canes in walking. The patient states that, in addition to the lead colic, he has also had attacks of epilepsy occurring at long intervals.

Entered Charity Hospital January 26th, 1869, with chronic dysentery and paralysis of lower extremities. The dysentery yielded readily to treatment. The patient was then placed upon Iodide of Potassium, and upon a tonic pill compound of Nux Vomica, Quinine and Iron. Cod-Liver Oil and good diet were also administered. At the time of his admission into the hospital, the patient presented a pale anæmic, sallow unhealthy hue, and his weight had been reduced from 170 pounds to 145 pounds.

The muscles of the leg flabby and apparently degenerated. The left leg was affected first and the loss of flesh was greater than in the right leg. The muscles of both legs were affected with irregular contractions and twitchings, which varied in intensity at different times. Bowels were frequently discharged involuntarily in bed and the rectum and its attached sphincter appeared to be partially paralyzed. The pulse was normal; being on an average 70 beats per minute, and the respiration 18 per minute; the temperature in the axilla ranged from 99°.5 F. to 100°.5 F; the temperature of the right leg was slightly higher than that of the left, being in the region of the posterior portion of the knee-joint 96.4° F. to 96° F. in the left leg. Under the use of the Tonic Pills, Iodide of Potassium, Cod-Liver Oil and nutritious diet, the patient gained a little strength and flesh. On the 12th of May, some swelling was observed in the lower extremities, and the patient complained of pain along the spine, which had existed with various degrees of intensity. The Magneto-Electric current was at this time ordered daily. The patient states that in 1850, his wife found him at night in an insensible condition; face purple and disfigured, with spasmodic twitchings of the muscles. The physician who was called in pronounced the attack epilepsy. The next morning the patient felt sore in all his muscles, as if he had been beaten. Had a similar attack at night in 1853, and since this period has had a number of epileptic seizures. In 1859, while painting the state-room of a ship, he suddenly fell and became unconscious, and after being carried on deck and after the administration of stimulants, the patient revived and then attempted to paint the captain of the ship, and only discovered his mistake after being aroused by the voice of the captain. After this attack felt great soreness in his limbs.

During the recent war was employed in *secret service* and his health appeared to improve during his connection with the army.

The measures instituted produced only temporary improvement, and the patient gradually lost nervous and muscular power and died during the month of January, 1870.

CASE XIV.—*Injury of Spine, resulting in Paralysis of Lower Extremities.* ✓

David Younge; age, twenty; height, five feet six inches; weight, 156 pounds; dark brown hair; grey eyes, fair complexion; native of Ireland; occupation, carriage driver. October, 1868, received an injury in the back, from some men unexpectedly throwing a sack of salt on his shoulders. At the time of the injury, felt a cold chill run over his body, with a feeling as if the spinal column had given way. The patient, however, was able to continue his ordinary occupation, until March, 1867, when he suffered severe pain in the small of the back, with difficulty in urination. At this time he gradually lost the use of the lower extremities which began to waste away. Entered the Charity Hospital, February 23d, 1868, with complete paralysis of the lower extremities, which confined him to his bed. The patient came under my treatment, April 1869. At this time he was pale anæmic, and confined to his bed from paralysis of the lower extremities.

Under the daily use of the Magneto-Electric, interrupted current, and of Strychnine and Iron, the patient's general condition improved, and he was able to sit up in a chair and to wheel himself about the wards and hospital entry. At the present time, April 1870, the condition of the patient is favorable, although he is still unable to stand alone. No marked variations of the pulse or respiration were observed in this case; the temperature of the axilla being 109° F; temperature of hand 99°; and of knee-joint 97.5.

CASE XV.—*Chorea—Effects of Snake Bite.* ✓

John Powers; aged thirteen years; dark-brown hair; hazel eyes; fair complexion; native of New Orleans. Patient states that a needle stuck into his head when a child, before he could recollect. The needle appears to have entered near the junction

of the parietal and temporal bones on the left side of the head. About two months before entering the Charity Hospital, the patient was bitten by a snake. The snake bite was followed by twitchings of the muscles, pain in the stomach and vomiting.

Admitted into the Charity Hospital May 7th, 1869, with irregular twitchings and jerking of the muscles of the face, neck and extremities, and with glandular swellings of lymphatics of neck. Complexion pale anæmic. The bowels were kept open, and the patient placed upon Iron, Quinine and Strychnine, and the best diet which the hospital afforded.

Under this treatment the twitchings as well as the glandular swellings disappeared.

A number of other cases of nervous diseases were brought before the Medical Class, but those which we have just recorded, presented the points of chief interest, and illustrate the importance of the careful study of Diseases of the Nervous System.

The force of this recommendation is evident, when it is remembered that the nervous system is not only the centre and channel of sensitive and moter impulses, conducting the moter influence of the will, to the muscles, receiving and transmitting to the cerebral ganglia, sensitive impressions from the exterior world, and balancing and co-ordinating the motions of the body; but is also intimately related to the acts of circulation and respiration, and the nutrition and secretion of the organs.

If the statements of pathologists are to be credited, there is a steady and marked increase of diseases of the brain and nervous system, which appears to be referrable to the excitements and vices of the present form of civilization. The ever restless ambition engendered by the enterprise and physical activity of the present day, in the fierce struggle for wealth and pre-eminence, necessitates a constant wear and tear of body and mind in this great and never-ending battle of *modern civilization*. At the present day, the brain is unduly strained and taxed, in the severe struggle for intellectual supremacy, and professional emolument.

The importance of the study of diseases of the nervous system, is well illustrated by the force of imagination, and the power of fear over the animal economy.

Schenckins relates the instance of a noble Spaniard, Don Diego Osorio, who, being in love with a young lady, of the Court, had prevailed with her for a private conference within the gardens of the King; but by the barking of a little dog their privacy was betrayed, the young gentleman seized by the King's guard and imprisoned. It was a capital offence to be found in that place, and Osorio was condemned to die. He was so terrified at hearing this sentence, that one and the same night, saw the same person young and old, being turned grey, as in those stricken in years. Moved at the sight, the goaler, related the accident to King Ferdinand as a prodigy, who thereupon pardoned him, saying he had been sufficiently punished for his fault.

A similar circumstance is related of a nobleman of the Roman Court, in the time of the Emperor Cæsar, who was also detected in an intrigue, cast into prison and sentenced to be decapitated on the morrow.

Dr. Marshall Hall has recorded the case of a gentleman, who was suddenly affected with epileptic seizures, *the effect of fear—the fear of the cholera*. After each epileptic seizure, the hemiplegic paralysis of the right side took place; but this yielded completely, except that the patient could not direct his mind from the idea that the feeling of the affected side was somewhat different from that of the other. At length, a fourth attack proved fatal; and on a *post-mortem* examination, the arachnoid was found slightly opaque, the ventricles containing serum, whilst in the left corpus striatum there was the remnant of a small clot of blood in a cyst slightly discolored. The arachnoid was raised in one part by serum, resembling a vesicle, and a small vesicle was attached to the plexus choroides.

On the other hand, the effects of strong mental and moral emotions, as the heroic enthusiasm of the excited warrior and the devoted martyr, may completely deaden the nervous system to fear and pain so that the dreadful wound and the burning flames are alike disregarded. In the dancing mania of the middle ages, described by Hecker, the patients at the height of their excitement, seemed to have had their external senses literally sealed, "While dancing" says Hecker, "they neither saw nor heard, being insensible to external impressions through the senses."

Under the influence of fear and fright, paralyzed muscles and limbs that were useless, have suddenly been thrown into action, hæmorrhages have been instantaneously checked, and fits of the gout, ague and other disorders of a periodic character have been cured.

Anger accelerates the progress of the blood, hurrying on the circulation with such fearful impetuosity, as to threaten the brain, and the organs contained in the chest; grief depresses the action of the heart, and causes serious accumulations in the large vessels and lungs, and gradually undermines the health of the body, by weakening the energy of the nervous system, and causing the functions to be carried on in a slow and unequal manner; even excessive joy has been known to occasion as strange and fatal results as anger and grief.

Ficinus mentions an instance of a malefactor who was carried out, as he conceived, to execution; and in order thereto his cap was pulled over his eyes, and a cold wet cloth being struck hastily about his neck, he fell down dead, under the conceit of his decapitation. A similar case is recorded by Charron;—a man having his eyes covered to be put to death, as he imagined—being condemned—and uncovering them again to receive his pardon, was found really dead on the scaffold.

It is said, and the statement has been often repeated, that a person was directed to be bled to death; his eyes were blinded and he was made to believe, by water trickling down his arms, that the sentence was being carried into effect. The mimicry is said to have produced his death as effectually as would the real operation; the powers of life were destroyed by the power of imagination.

Sophocles, at an advanced age and in full possession of his intellectual power, composed a tragedy, which was crowned with such success, that he died through joy; Chilon, of Lacedemon, died from joy whilst embracing his son, who had borne away the prize at the Olympic Games; Juventius Thalma, to whom a triumph was decreed for subjugating Corsica, fell down dead at the foot of the altar, at which he was offering up his thanksgiving; and Fouquet, upon receiving the intelligence of Louis XIV, having restored him to liberty, fell down dead.

These and many other cases of sudden death, from powerful emotions and unexpected joys and sorrows, are doubtless to be attributed to the effects produced by the nervous system upon the sanguiferous system. Dissection has shown that in a large proportion of such cases, the heart and large blood-vessels, are either structurally altered or engorged with blood; in some cases, death is clearly referable to effusions upon the brain, and especially at the base of this organ in the neighborhood of the origin of the respiratory nerves.

I have, by numerous experiments upon living animals, demonstrated to the Medical Students of the University, the sudden fatal effects of the arrest of the circulation and respiration, by destruction of the respiratory ganglia, and by the action of such poisons as Hydrocyanic Acid, which act directly upon the *medulla oblongata*.

The sudden withdrawal of the influence of the medulla oblongata, during fright or excessive joy, may be also assigned as one cause of sudden death.

Numerous examples of the production of convulsions, hysteria, epilepsy, madness and idiocy, have been recorded by various writers, as being produced directly and absolutely by fear and terror; but it will be sufficient for the illustration of this subject, to record some instances illustrating the effects over disease of the imagination.

Mr. Coleridge relates the following anecdote to Dr. Paris:

As soon as the powers of Nitrous Oxide were discovered, Dr. Beddoes at once concluded that it must necessarily be a specific for paralysis; a patient was selected for the trial, and the management of it was entrusted to Sir Humphrey Davy. Previous to the administration of the gas, he inserted a small pocket thermometer under the tongue of the patient, as he was accustomed to do upon such occasions, to ascertain the degree of animal temperature, with a view to future comparison. The paralytic man, wholly ignorant of the nature of the process to which he was to submit, but deeply impressed from the representation of Dr. Beddoes, with the certainty of its success, no sooner felt the thermometer under his tongue than he concluded the *talisman* was in full operation, and in a burst of enthusiasm, declared that he

already experienced the effect of its benign influence throughout his whole body; the opportunity was too tempting to be lost; Davy cast an intelligent glance at Coleridge and desired his patient to renew his visit on the following day, when the same ceremony was performed, and repeated every succeeding day for a fortnight, the patient gradually improving during that period, when he was dismissed as cured, no other application having been used.

At the time that Nitrous Oxide excited almost universal attention, several persons were exceedingly anxious to breathe the gas; and Professor Woodhouse administered to them, ten gallons of atmospheric air, in doses of from four to six quarts. Impressed with the idea, that they were inhaling the Nitrous Oxide, quickness of the pulse, dizziness, vertigo, tinnitus aurium, difficulty of breathing, anxiety about the breast, a sensation similar to that of swinging, faintness, weakness of the knees and nausea, which lasted from six to eight hours were produced; symptoms entirely caused by the breathing of common air, under the influence of an excited imagination.

At the commencement of the present century, a man by the name of Perkins, introduced certain pieces of metal, called tractors, which he contended would cure certain diseases by merely drawing them over the affected parts. The extraordinary effects which were said to have been produced by their operation, were referred to galvanic, electric or magnetic influences.

Dr. Haggarth resolved upon putting the metallic tractors to the test of experiment, and selecting five patients from the general Hospital at Bath, he submitted them to the operation of a pair of false tractors, composed not of metal but of wood, yet so painted as to resemble the metallic ones in color. The patients thus selected had been ill several months with various diseases of a chronic character, as gout and rheumatism. Upon the affected parts being stroked in the slightest manner by these pieces of wood, the patients all declared themselves relieved; three of them were particularly benefitted, and one immediately improved so much in his walking that he had great pleasure in exhibiting proofs of the benefit he had received. One said he felt a tingling sensation for two hours. Similar experiments with wood, slate-

pencil, tobacco-pipes, etc., were made at the Bristol Infirmary with the same results; and the fame attending these cases was so spread abroad, that more patients crowded for relief than time could be afforded to bestow upon them. Men that were unable to lift their arms and legs, were speedily restored to their use, after the application of the supposed metallic tractors.

Such examples explain the miraculous cures ascribed to empirical and inert remedies. It has been well said, "it is the confidence of the quack, and the hope of the patient which work the cure. Disease is well known to depress the powers of the understanding as well as the digestion. A sick person is, in particular extremely credulous about the object of his hopes and fears. Whatever promises him health, may easily obtain his confidence, and he soon becomes the dupe of quacks and ignorant pretenders."

Dr. Reid has said that he who in the study or the treatment of the human machinery overlooks the intellectual part of it, cannot but entertain very incorrect notions of its nature, and fall into gross and sometimes fatal blunders in the means which he adopts for its regulation or repair. Intellect is not omnipotent; but its actual power over the organized matter, to which it is attached is much greater than is usually imagined. The anatomy of the mind, therefore should be learned, as well as that of the body; the study of its constitution in general and its peculiarities, or what may be technically called idiosyncracies, in any individual case, ought to be regarded as one of the most essential branches of a medical education.

Plato says: "The office of the physician extends equally to the purification of the mind and body; to neglect the one, is to expose the other to evident peril. It is not only the body, that by its sound constitution strengthens the soul, but the well-regulated soul by its authoritative power maintains the body in perfect health."

Hippocrates, admitted that that physician performed most cures, in whom the patients placed the greatest reliance.

ART. III.—*The Microscopical Anatomy of the Human Liver*; By
Dr. H. D. SCHMIDT, of New Orleans.

(Concluded from January No. of the Journal of Medicine, 1870.)

Cells, free nuclei and granules, occupying the interspaces of the two capillary networks of the parenchyma of the liver.

The great irregularity of form, peculiar to the hepatic cells, distinguishes them from most other cells in the animal organism. They represent irregular polyhedrons, the diameter of which ranges from 3-10000 to 13-10000 of an inch. When closely examined, while floating in water, a constant change of form, according to the position they assume, can readily be observed. This is owing to the great irregularity of their numerous surfaces, which, undoubtedly have been produced by an unequal mutual pressure of the whole mass. The difference of form in one and the same cell, when viewed from different sides, is very striking; and proves how unsatisfactory and incorrect the results of an examination of the liver cells, in their quiescent state, must be. If, however, the attention of the observer is closely directed to the angles of the various surfaces of a hepatic cell while in motion, they may still be recognized, after it has quietly settled. The walls of the hepatic cells are very delicate, and very difficult to be seen while the latter are floating in water, but may be distinguished during their state of rest. The interior of the cells is occupied by a greenish yellow and highly viscid substance. I have convinced myself of the viscid nature of this substance by slowly tearing the cells with the fine needles of the "microscopic dissector." Fig. VI, a, represents a hepatic cell, caught by the points of two needles, and partially torn; at b, we notice the same cell, entirely severed by the farther separation of the points of the needles, its halves are held together by the viscid contents, drawn out into a filament. Fig. VII is another cell, mutilated by a needle with a broken point; its contents are also drawn out in the form of filaments. When cells are torn in this manner, their walls seem not to possess a great amount of elasticity, but break rather abruptly.

Imbedded in the viscid material, contained within the hepatic cell, we find a nucleus and granules. Frequently there are two

nuclei, and, in some instances I have even observed three. The interior of the nucleus also contains some granules, one or two of which are, usually, larger than the rest, and may be regarded as the nucleoli. In two instances I have observed a granule within the nucleolus. The form of the nucleus is mostly round, or slightly oval; its mean diameter is $\frac{3}{10000}$ of an inch, that of the nucleolus about $\frac{1}{10000}$.

Besides the nucleolus and granules, the hepatic cells of the human liver frequently contain some oil-globules, whose presence I have, however, not found so common as is usually believed, except in the case of fatty livers. By the addition of ether these fat-globules disappear, while the other granules are not affected at all. The cells, then are observed to shrink, and to collect in masses, together with the free nuclei and granules. The fat, dissolved by the ether, is seen in the form of globules or irregular patches of various sizes, distributed over the field of the microscope. Under these circumstances, the cells float no longer, but settle instantly, without regard to the amount of water added; they have also lost their transparency, and their delicate outlines have become coarse and dark. The granules seemed to be rendered more distinct.

The free nuclei found among the hepatic cells, differ in size and have the same character as those within the latter. The same may be said of the free granules.

Sometimes, the nucleus within the cell is found in a state of division. This, and the presence of free nuclei, would indicate that the multiplication of the hepatic cells might take place, both by free development and by division.

Evidences adduced of the existence of the network of "biliary tubules," in which the finest branches of the hepatic duct and lymphatics originate.

The views of numerous investigators on the microscopic anatomy of the liver, as already mentioned, have always been conflicting in regard to the commencement of the finest branches of the hepatic duct. It would be difficult to find out the cause of this discrepancy in the results obtained by different authorities. And, yet, when considering the satisfactory results, obtained by them

from investigations, of a far more difficult nature, on other subjects, I can not but think that the proper means have not been resorted to, or this subject has perhaps not received the attention it deserved.

I will now proceed to prove the existence of the network by means of injection. If either the hepatic artery, portal vein or hepatic veins of the liver are injected with a colored material, and upon a careful microscopic examination of fine sections of the substance of the liver, we discover a capillary network of the same color as was injected, the natural inference would be: *that this network is continued with the finest branches of the blood-vessel, into which the material was injected.* This has been repeatedly done, and no one doubts its correctness. All anatomists believe in the existence of a capillary network which forms the connecting link between the finest branches of the portal vein and hepatic artery and those of the hepatic veins. But what would be the inference, if the same material were injected into the hepatic duct, and *a capillary network of the same color were discovered by a subsequent microscopic examination?* It certainly ought to be the same as in the former case. Another explanation, however, might be offered to explain the phenomenon; as, for instance, the possibility of a rupture of the finer branches of the hepatic duct and of the capillaries of the blood-vessels, which would afford an opportunity to the colored material to pass from one set of vessels into the other. Although inclined to deny the probability, I admit the possibility of such an occurrence in one, or, even, in a few instances. This explanation of the phenomenon, however unsatisfactory as it already is in itself, loses every appearance of probability, when we meet by a subsequent examination with the most regular capillary network, of the same color as the material which was injected into the hepatic duct, and without exception, in scores of instances; or, in other words, in every experiment performed. With such facts before us, we can no longer doubt the continuity of such capillary network with the finest branches of the hepatic duct, into which the colored material was injected. Again, if we observe the continuity of the network with the finest branches of the hepatic duct, as represented in Fig. I, c and f, the evidences are still stronger,

for, certainly, no anatomist, who is familiar with the diameters and characters of the branches of the hepatic duct and those of the blood-vessels, would ever confound the former with the latter.

There are still other proofs, strong enough to convince even the most skeptical or rather prejudiced mind; for instance: A liver is taken, and its vessels and ducts carefully injected—in the manner as will be described in one part of this treatise—with different colors; for example, prussian blue into the hepatic duct, yellow into the hepatic artery, red into the portal vein and white into the hepatic veins. If now, by examining fine sections of such a specimen of liver we recognize the different individual vessels by their peculiar characters as well as by their respective colors, injected into their parent trunks, and also by the relative position they occupy towards each other; and, then, directly trace the finest branches of each to a network of capillaries of its own color, what farther proofs can be expected of the correctness of my statements? In such a case the branches of the hepatic duct, which were injected with the prussian blue, are observed to terminate in a blue network of capillaries, while those of the hepatic artery and portal vein are seen to terminate in another of yellow and red, one or the other of which usually predominates.

Frequently we find either one or the other network more or less injected. The cause of this is very obvious. If, for example, the capillaries of the blood-vessels are filled with the injecting material sooner than those of the hepatic duct, the former, being already distended, press upon the latter—with which they interlace,—and thus prevent the entrance of the material which was injected into the duct, into them. This, however, is not always the case, for there are many places met with, in which we find both sets of capillaries injected with their respective colors. Fig. 1.

If a thin transparent section, in which both capillary networks are injected, be examined under the microscope, the two sets of capillaries can be readily distinguished as they interlace with each other. In making such examinations, the sections should be illuminated from above and below; and for this purpose, a condensing lens of no less than three inches diameter should be used. After the mirror and condenser are properly adjusted, and

the section thus illuminated by reflected and transmitted light, the attention of the observer should be directed to one particular spot of the section where both sets of capillaries are injected. By turning the mirror slowly, either reflected or transmitted light may be made to predominate, and the examination carried on very successfully. Examinations of such sections by oblique light are also of great importance.

In comparing the interspaces of the network in a thin section, in which only one set of capillaries is injected, with those of another section in which both sets are injected, they will be found larger in the former than in the latter; this shows that the networks interlace with each other.

In very thin sections in which one set of capillaries is injected with the colored material, and the other only with the uncolored solution of Canada balsam, the walls of the uncolored capillaries can be distinctly observed, as they accompany and cross the former, if examined with an objective of one-half or one-quarter of an inch focal length.

The meshes of the network of "biliary tubules" are very regular, and the walls of the latter can be distinguished without difficulty. The regularity of the vessels of this network, when injected with prussian blue, exceeds even that of the capillaries of the blood-vessels. I have seen the biliary tubules so well filled with prussian blue, that they appeared almost black, but were still retaining the regular form of their meshes; this strongly serves to prove that they possess walls as strong as other capillaries.

Sometimes, in examining thin sections, places are met with in which the biliary network is well injected, and very regular, while the interspaces are slightly tinged with the color—prussian blue. At first sight, this might be taken for an extravasation; but by closer examination, it will be found that this tinge is produced by a transudation of the injecting liquid—colored by the exceedingly fine prussian blue—from the biliary tubules into the hepatic cells. I have convinced myself of this fact, by putting small pieces of fresh liver into the blue injecting material, and by examining minute fragments of it after some hours had elapsed; in such cases I always found the blue color in the interior of many of the cells.

Another mode to study the network of biliary tubules is by examining small fragments of injected liver under water by strong reflected light. The objective used for this purpose, must be of a low power, and of the best quality.

If a fragment is taken in which the network of biliary tubules is injected with blue, and that of the blood-vessels—from the hepatic veins—with white, the capillaries of both can be seen, as they cross each other. Close study is required for this examination, and due allowance has to be made for the transparency of the colors. Moreover, the character of the networks, and the diameters of the interspaces between their capillaries—in places where only one or the other is injected—should be critically observed, in order to compare them with those in other places where both are injected.

I can highly recommend this dissection and examination of small injected fragments under water; the most satisfactory results are obtained from it.

The conclusions which I have drawn, in regard to the network of "biliary tubules" in the parenchyma of the liver, are not the results of mere accidental observations on a few specimens. On the contrary, I have examined many hundreds, nay, many thousands of thin transparent sections, and also small fragments of injected liver. The great rapidity with which I can produce sections of great thinness and large size, by means of my apparatus, enabled me to do so. If well injected portions of the liver are examined in the manner I have indicated, my statements will be found correct in every instance.

In the fresh uninjected specimens, the commencement of the ultimate branches of the hepatic duct in a capillary network can also be demonstrated; this is, however, attended with more difficulties than the demonstration by injection. It is done by the aid of the microscopic dissector, as follows: A portion of fresh liver is put under water, and a very fine probe introduced into a small branch of the hepatic duct; the latter is then carefully traced to its finer ramifications—under a magnifying power of three to four diameters—by separating it from the surrounding parenchyma. When it cannot be pursued any farther without the risk of tearing it, it is separated from the whole with a very

small portion of that parenchyma to which it adheres. The fragment is now placed on a glass-slide, provided with a little spring, which, by pressing upon the duct prevents the fragment from being displaced. Well covered with water, it is placed on the dissecting stage, and under a magnifying lens of 8-10 diameters, dissected by means of fine curved needles. The object in view is to trace the duct to its finest branches as far as the low magnifying power will allow; and this is accomplished by a mere loosening of the tissues, in order to liberate the cells from the capillary vessels without tearing the latter. The fragment should be washed several times. Being thus far dissected under a low power, it is put upon the glass plate of the "microscopic dissector" and kept in place by the small lever. Before commencing the dissection with this instrument under the compound microscope, it is advisable to re-examine the preparation under the simple magnifying lens on the dissecting stage, taking care that it is nicely spread upon the glass, so that the ultimate branches of the hepatic duct, or of the blood-vessels, do not overlap each other. The microscope dissector, with the preparation upon its glass-plate, is now placed upon the stage of the compound microscope, and after a small branch of the hepatic duct—with some of the parenchyma still adhering and rendering it favorable for research—has been found under an objective of one-half inch focal length, the dissection with the curved needles of the instrument may be commenced. After the needles have been made to take hold of the preparation at the proper places, an objective of a higher power may be employed. The curved points of the needles, of course, must be short enough as not to interfere with the approach of the objective in bringing the object into its focus.

If a dissection, as just described, is made successfully, the finest branches of the hepatic duct will be seen to commence in a capillary network. A fine duct may be seen in company of its corresponding portal vein and hepatic artery, and, likewise, their finest branches, each originating in its respective vessel, and terminating in the capillaries. The ducts can always be distinguished from blood-vessels by their *characteristic epithelium*. By moving the needle which holds the finer extremity of the duct, it

will be observed that the meshes of the "biliary tubules," arising from it, move also, while the capillaries, arising from the blood-vessels, remain stationary; this manœuvre, if well executed, removes every doubt which might still exist in regard to the origin of the finest hepatic ducts. A great deal of patience and manipulative skill, however, are required to make such delicate dissections, and the investigator must not become discouraged when he finds that his labors are not always crowned with success. All he can do when failing, is to try it again.

When the biliary tubules have once been satisfactorily demonstrated by the skill and perseverance of the investigator, he will be able to recognize them—without the aid of the microscopic dissector—in preparations carefully made on the dissecting stage.

The commencement of the finest branches of the lymphatics in the network of "biliary tubules" can only be demonstrated by injection. In removing cautiously the parenchyma, in which the "biliary tubules" are well injected with prussian blue, from the "capsule of the portal vessels," and then dissecting, under water, a thin layer from the outside of the latter, the lymphatics can often be seen arising from very fine vessels, derived from the "biliary tubules" of the adjacent parenchyma; they may be recognized by their characteristic constrictions and by their faintly blue color. The latter fact is easily explained when we consider that the greater part of the prussian blue, with which the injecting matter is colored, is retained in the hepatic ducts and in the network of "biliary tubules;" when the material reaches the lymphatics the amount of color is so small as to render them only faintly blue.

In thin sections of injected human liver, we frequently meet with longitudinal sections of intra-lobular hepatic veins, in which the greater part of the vessel—and with it the color with which it was filled—is removed. In such instances the finer lymphatic branches, running parallel with the vein, can often be seen, as they arise from the biliary tubules.

Sometimes, in minute dissections of the smaller branches of the portal vessels and the duct, fine lymphatics are seen, as they come from the parenchyma to accompany the vessels and ducts.

The most satisfactory observations I made to determine the

origin of the lymphatics in the network of biliary tubules, was in the liver of the sheep. The results of these experiments were so conclusive that they removed all doubt from my mind in regard to this subject. They were as follows: An uninjured liver of the sheep was taken, and a small canula, with an orifice of about one-fortieth of an inch in diameter, inserted into the hepatic duct. Being placed into the basin of my injecting apparatus, the canula was connected with the latter, and everything else prepared and adjusted in order to inject it in the manner as described in that section of this memoir which treats on the subject of "minute injections," with the description of the apparatus. By exhausting the air from the interior of the basin, it is also exhausted from the interior of the hepatic ducts; at the same time, its pressure is removed from around the organ, and also from the cut ends of the large lymphatic vessels, which emerge from the liver alongside of the portal vessels, and those coming from those lymphatic glands near the vena porta. As soon as the communication between the interior of the hepatic ducts and the interior of the basin was cut off, and that with the injecting liquid--colored with prussian blue--established by a slight turn of the intervening stop-cock--the liquid in the glass tube commenced to descend very slowly by its own weight and the pressure of the atmosphere. Soon after, the patches appeared at the surface of the liver, indicating the arrival of the blue injecting material in the "biliary tubules" of those places; but, at the same time, it also issued from the open mouths of the large lymphatic vessels. When the vacuum in the basin was destroyed by the re-admittance of the atmosphere, the pressure of the latter upon these open lymphatics, arrested the flow of the colored liquid from their cut ends, and also its descent in the glass cylinder; this, however, was re-established, as soon as the pressure was removed again by creating a new vacuum around the organ. The injection was so perfect, that even [several lymphatic glands in the vicinity of the transverse fissure, and which receive their afferent vessels from the liver, were beautifully injected. As the orifice of the canula, inserted into the hepatic duct, was only one-fortieth of an inch in diameter, the pressure exerted by the atmosphere and the gravity of the liquid, must have been exceedingly small, which was,

farthermore, indicated by the very slow descent of the liquid. I therefore hardly supposed that a rupture of the biliary tubules, and consequently an extravasation of the liquid into the parenchyma—by which the liquid might have entered the lymphatics—could have taken place. The last doubt, however, disappeared, when I examined portions of the capsule from the surface of the liver under the microscope. Here, in some places, small portions of the parenchyma in which the network of “biliary tubules” was well injected with prussian blue, were left. Arising from these, I observed a beautiful network of lymphatics, also injected blue, but more faintly than the “biliary tubules.” Fig. V. When such a preparation is examined with an objective of one-fourth of an inch focal length, the transition from the “biliary tubules” into the lymphatics can be distinctly seen. By the thinness of the capsule in this case, I was enabled to make even an examination with an objective of one-tenth of an inch focal length. The lymphatics in the capsule on the surface of the liver of the sheep form a network of large capillary vessels, which converge to a number of centres where they join the larger vessels. Their larger size distinguishes them from the “biliary tubules.”

To obtain still more conclusive proofs, I repeated the above experiments with some slight modifications, and the results I obtained in every instance were very satisfactory. I repeated the above experiment also with chrome-yellow instead of prussian blue; but as the former—consisting of fine granules—is not as fine as the latter, it required that the removal of the pressure of the atmosphere from the open lymphatics was carried to a greater extent, before the yellow color appeared within them.

The phenomenon of a liquid, injected into the hepatic duct and returning by the lymphatics, has been noticed by most of the special investigators of the liver, as has already been mentioned. Without any farther attempt to trace it to its source by microscopical examination, the majority of them were contented to attribute it to a rupture of the finest branches of the hepatic duct, causing an extravasation by which some of the finer lymphatics were ruptured, and an opportunity offered to the liquid to pass from one kind of vessels into the other. For my own part, I believe

that extravasations do not occur as frequently as is generally supposed, if the proper precautions are taken. They certainly take place often if these are neglected. In the above mentioned experiments on the liver of the sheep, the pressure employed was surely too little to rupture the "biliary tubules," and the exceedingly slow and gradual descent of the liquid would be sufficient reason to deny such an accident. The walls of the capillaries are very elastic, a fact which I have often observed, by stretching them to one-third more of their original length by means of the microspopic dissector.

To the best of my knowledge, Mr. Natilis Guillot is the only author, who has asserted the existence of a natural communication between the hepatic ducts and lymphatics.

ON MINUTE INJECTIONS.

One of the most important objects to the microscopic anatomist is the injection of the smaller blood-vessels and ducts, etc., of an organ with colored material. In truth, the investigation of the circulatory system of any organ can scarcely be considered complete unless this has been resorted to; for by it we are enabled to study the relationship existing between different parts of the organ, the character of the arterioles and venules, their transition into the capillaries, and the various forms of the meshes, together with the relative size of all. Many parts in histology, thus revealed by injection, may be seen without trouble, and their nature studied conveniently in fresh uninjected specimens.

In my article on the "Hepatic lobule,"* I have already dwelt to a limited extent on the subject now under consideration. My remarks, then, applied more particularly to the material to be injected, rather than the different modes of injection and description of instruments and apparatuses to which I now direct attention.

One of the first requirements is, that the operator be perfectly familiar with the special anatomy of the circulatory system of the animal, or the organ, to be injected; if this be neglected, much time and material will be lost. Before injecting, care should be taken to secure by good ligatures the cut ends of small vessels,

* American Journal of Medical Sciences, January, 1859.

communicating with the vessel into which the pipe or canula is inserted. The situation of such open vessels may be readily ascertained by placing the organ under water and forcing air into the pipe. If any vessel remain open, the air issuing from them will manifest itself in the form of bubbles in the water. But sometimes, even with these precautions, the open mouths of some pass undetected until we see the injecting material issuing from them. The only remedy, then, is to suspend the pressure and close the vessel by means of a ligature or a small forceps, similar to those used to close the orifices of the bites of leeches. The injector should always be provided with a number of these forceps, which are very serviceable in closing quickly vessels which may be ruptured by the application of too much pressure.

A common mode of injecting is by means of an ordinary injecting syringe. There are numerous inconveniences attending this method, and not the least of these is the difficulty in cleansing the instrument, if it is not constructed properly. It ought to consist of a piston, tubular cylinder and two caps which are screwed to the ends of the latter; the inner surface of the cylinder should be free from any irregularity and exactly of the same diameter throughout. The piston too should be accurately constructed of some elastic material, and of such an arrangement as would enable the operator to take it to pieces for the purpose of cleansing. Its rod should be provided with divisions of transverse lines, in order to detect the arrest of the piston when the organ is filled; the ring or button at the extremity of this rod should be arranged to screw on or off, a provision to introduce the piston from the upper extremity of the cylinder. The upper cap of the latter is provided with a piece upon which the small canula fit. A better plan is to have a small piece with a stopcock, whose lower extremity is arranged to fit upon the cap, and the other to receive the small canula upon. The closure of the stopcock will prevent the material from regurgitating from the vessels while refilling the syringe. When the vessel, into which the pipe is introduced, is small and its coats are liable to be torn easily, an elastic tube, inserted between the pipe and stopcock, will allow the operator to move the syringe more freely without the risk of tearing the vessel. The calibre of a syringe just de-

scribed is according to the size of the organ to be injected ; it may hold from two to four ounces or more. The pressure is principally made by the thumb, and ought to be applied very gradually though continuously. When the organ is nearly filled with the material, the pressure should from time to time be arrested ; however, without suffering the piston to recede. Thus, an opportunity is afforded to the injected liquid to penetrate gradually through the capillaries ; in the mean time, the contraction of the distended walls of the vessels assists too in pushing the liquid forward. After the process is completed, a ligature, applied to the vessel beyond the insertion of the pipe, prevents the material from retreating.

Another mode of injecting, is by means of a column of liquid which is contained in a glass-tube, provided with a stop-cock. The pressure, produced by the gravity of the liquid, can be regulated very nicely by the stop-cock for small objects. But for large organs—unless the column itself is large and high, or its position elevated—the pressure is insufficient to impel the liquid throughout the organ.

Still another method of injecting is by the pressure of the atmosphere. To effect this, a pipe, which communicates by an elastic tube with a vessel, containing the injecting material, is inserted into the artery of some chosen organ. Another pipe, inserted in the vein communicates with the receiver of an air-pump. By exhausting the air from the interior of the vessel, the liquid is forced into them by the pressure of the atmosphere upon the liquid. Of the three methods, the last is by far the most preferable.

Several years ago while experimenting upon this subject I examined and admired a number of specimens, injected with different colors by Prof. Hyrtl, of Vienna. My own had hitherto been made with one color only ; but the neat appearance of the capillaries of his preparations awakened a desire in me to carry it to the same degree of perfection. Disappointed in examining books for this information, I conceived the idea of a complicated apparatus which would inject four different colors at the same time, and also enable me to regulate with the greatest accuracy the amount of pressure.

The great principle upon which all apparatuses of this kind should be constructed, is, that *the hands of the operator should never be engaged for any length of time at one particular part*, but be able to remedy any accident without disturbing the whole process. The inconvenience of the syringe for injecting becomes here very obvious. If—as sometimes happens—a vessel is ruptured, the whole process must be arrested before it can be remedied, and, consequently, the piston will recede and the liquid retreat from the vessels already injected. It follows, then, that the pressure ought not to depend upon the muscular force of the operator, but upon some other agent. Such a one we find in the pressure of the surrounding atmosphere, or in that of air compressed in some receiver by means of a forcing pump.

Upon this principle, I have constructed an apparatus, which, while it dispenses with the use of the hands for the application of pressure, exhausts the air contained in the blood-vessels, and also diminishes the pressure of the atmosphere which surrounds the organ. In the drawings accompanying the following description I have paid no attention to proportion, my only object being to illustrate the principle.

The apparatus consists of a semi-spherical basin—Figs. I and II, with several appendages. This basin is made of the best cast iron of sufficient thickness to bear the pressure of the surrounding atmosphere after a vacuum has been produced within. Upon its circular margin, which is perfectly level, rests a glass bell—Fig. *b*—completing the sphere. Attached to the basin, there are four sets of pieces, intended to convey the injecting fluid—differently colored for each set—to the vessels. A description of one set will suffice. In Figs. I, II and VI, *o* represents a piece bent in a double angle and riveted to the inside of the basin; it is provided with a hole, Fig. VI, forming an incomplete circle, which lodges the piece *d*, Figs. I and II, to be described hereafter.

In referring to the drawing, it will be seen that this piece has a flange around it, dividing it into two parts. The part toward the wall of the basin, forms a cylinder with a small portion flattened, to prevent the piece from turning, and similar in form to the hole in piece *o*, Fig. VI—into which it fits. The other part of the piece *d* is slightly conical; it supports the tube *k*, to

which—by means of an elastic tube *l*—the pipe *i* is attached. The tube *k* must be made to fit perfectly air tight upon the piece *d*. The cylindrical part of the piece *d*, which moves in the piece *o*, has a strong spiral spring, *f*, Fig. II, wound around it, which, pressing against the shoulder, pushes it toward the centre of the basin. The piece *c*, Figs. I and II—consists also of a hollow cylinder, and may be divided, for the sake of description, into three parts. The first part turns in the wall of the basin, and rests against it by a shoulder provided with a leather washer, *n*, to render the junction air tight; its extremity forms a screw, *e*, which is arrested by a shoulder provided also with a leather washer, *m*. By means of this screw, the piece *c* can be screwed into the piece *d*; the part forming the screw is pierced by four holes. The second part of the piece *c* serves for the attachment of an elastic tube, *s*; this tube is provided with a brass cap on its other extremity. Near the attachment of the elastic tube, the piece *c* is pierced by a hole, extending only to the interior of the hollow cylinder; into this hole, a screw, provided with a head in the form of a large button, fits. This screw also is hollow, and pierced at right angles by a small hole, extending only to the centre; at the point where it joins its button-shaped head, the latter forms a shoulder, provided with a leather washer. The third or middle part of the piece *c* holds a stopcock.

Another part of the apparatus is a hollow glass cylinder, *a*, Fig. III, provided with a brass cap at each extremity, *b* and *c*. The cap *b* is screwed to piece *u* which supports the cylinder, being provided with three legs, this piece has also attached to it another with a stop-cock *o*, and it is upon the latter piece that the brass cap *t* of the elastic tube *s* fits air tight. To the upper brass cap *c* of the glass cylinder, another cap, *d*, is attached by means of a screw, but which, for the present, we will imagine as being removed, so that the cylinder might be open at its upper extremity.

Having thus far described the individual pieces of some parts of the apparatus, I will explain the process, and for this purpose again refer to Fig. I. It represents a verticle section of the basin *a*, with the glass bell *b* resting upon it. It is almost unnecessary to mention that the level surface of the basin, upon

which the bell rests, should be greased a little with a mixture of tallow and wax, in order to render it perfectly air tight. The organ to be injected rests within the basin. For the sake of illustration, I have here a kidney, *r*, represented, and in one of its vessels the canula *i* inserted and tied in the usual manner. This canula is connected, by means of an India rubber tube, with the brass tube *k* which accurately fits upon the piece *d*. In referring now to the piece *c*, we find that it rests against and turns in the wall of the basin, and that, by means of its screw *e*, it is fastened to the piece *d*. By means of the *holes* in the screw *e*, a communication is established between the interior of the vessels and the space within the basin and glass bell; farther, the track of the communication—marked by dotted lines in the drawing Fig. II—extends only to the stop cock *g* of the piece *c*; as the direction of the hole of the stop cock is at right angles to that of the track, which is thus closed. As the spring *f*, by pressing against the shoulder of the piece *d* causes the piece *c* to press against the washer *n*, the junction between the piece *c* and the wall of the basin is rendered perfectly air tight, and the communication between the external atmosphere and the space within the basin and bell is completely cut off. In referring to Fig. I, we notice another piece, *p*, attached to the basin and provided with a stop-cock. To the extremity of this piece, the air pump is attached by means of an elastic tube with thick walls. Through this route the air within the basin and bell is exhausted and a vacuum produced there; the air confined within the vessels then expands and escapes through those small holes at the extremity of the piece *c*. Thus we remove the air from within and around the organ.

Having accomplished our purpose thus far, we screw the piece *c*—Fig. II—into the piece *d*. As the screw *e* disappears within the piece *d*, the holes in its walls are closed, a junction of the pieces *d* and *c* is effected, and the communication of the interior of the vessels with the space within the basin and bell is cut off. This junction is rendered closer by a leather washer, *m*.

We have now produced two vacuua; one within the vessels of the organ, extending through the canula *i*, elastic tube *l*, brass

tube *k*, pieces *d* and *c* as far as the stop-cock *g*; the other around the organ within the basin. Here, it must be remembered that while I only describe the track between the artery and the stop-cock *g* of one piece, there must exist, at the same time, a similar one, leading from the vein to the stop-cock of another piece. If the vein is left open, then, of course, we have only one vacuum.

In proceeding with the process, we now notice the brass cap *t*—Fig. I, which fits upon the slightly conical extremity of the piece *o*, Fig. III, and thus, through its elastic tube, establishes the communication between the glass cylinder and the piece *c* of the basin. The stop-cock of the glass cylinder being closed, the latter is filled with the injecting liquid. If the former is now reopened, the liquid will pass through the piece *o*, through the elastic tube *s* and a part of the piece *c*, and arrives at the closed stop-cock *g* which separates it from the vacuum within the vessels. Before opening this stop-cock, however, and to see if there is no obstruction in the elastic tube *s*, we unscrew to a small extent the screw *q*—Figs. I and II. This screw is a hollow cylinder, as will be remembered, whose wall is pierced by a small hole, extending only to its centre. When the screw is entirely screwed into its socket, the latter covers the small hole and prevents the liquid from escaping, but as soon as it is unscrewed to some extent, the hole is freed from its covering, and the liquid issues forth from it. When the liquid appears, it is quickly arrested by turning the button of the screw. Having found that there is no obstruction, we now turn the stop-cock *g* very slowly, and allow the liquid to descend into the interior of the vessels. This stop-cock gives perfect control over the pressure of the atmosphere upon the liquid, while we are enabled to watch the descent of the latter through the glass cylinder in which it is contained. If it is desired to inject the blood-vessels of an organ with one color only, the canula may be inserted into the artery, and the mouth of the vein left open to communicate with the vacuum. To prevent the material from being wasted in doing this, a canula may be inserted into the vein, and then connected with a vial in the interior of the basin, by which precaution the material issuing from the vein will be caught.

Sometimes, in injecting a large organ, especially, when with

several colors at the same time, the mere pressure of the atmosphere is insufficient. To meet this emergency I have employed a forcing pump, as represented in Fig. IV.

This pump consists of a receiver *m*—Fig. IV—upon which is mounted a smaller one *i*. A communication between them is established by means of a piece *k* which is provided with a stop-cock *l*. A forcing pump *n* is mounted upon the large receiver, into which the air is forced and compressed; a very great amount of pressure is thus obtained. Upon the top of the small receiver, four conical pieces *g*, provided with brass caps, *f*, are mounted. The brass cap *f* is joined to the brass cap *d*—which fits the mounting of the upper extremity of the glass cylinder, Fig. III—by means of a long elastic tube *e*; besides these pieces, there is also a small stop-cock *h*.

In using the apparatus, the communication between the two receivers is first cut off by the turn of the stopcock *l*, and the larger receiver filled with compressed air by working the pump *n*. By turning the stopcock *l* more or less, according to the amount of pressure required, the compressed air rushes into the smaller receiver *i*, and thence through the elastic tube *e* into the glass-cylinder *a*, to press upon the injecting liquid. As the small receiver is provided with *four* conical pieces—each of which communicates through its elastic tube with a glass cylinder—we are enabled to apply the same amount of pressure, at the same time, upon the surface of four different columns of liquid, while we can regulate it in the most perfect manner by turning the stopcock more or less. The amount of liquid which enters the vessels can be estimated by observing its descent through the transparent walls of the cylinders. The pressure should be applied very gradually. After having allowed a certain amount of compressed air to escape from the receiver and to press upon the liquid, it is well to stop, and allow the elasticity of the air and the contractility of the distended vessels to push the liquid farther on. When the vessels of the organ are filled, if more air be admitted, the liquid, being compressed, slightly descends in the glass cylinder, but by opening the stopcock of the small receiver, the compressed air is heard rushing out, while the liquid returns to its former level.

If the rupture of a vessel takes place, the bell, of course, has to be taken away and the air admitted into the basin, in order to close the vessel; this done, the process is continued by the aid of the forcing pump.

I would here mention, that the small elastic tube *l*, Fig. I, has frequently annoyed me by its liability to rupture from the action of the ether on the india-rubber. To avoid this annoyance, I had, as a substitute, tubes made, entirely of brass, having four air tight joints, similar to those of movable gas-pipes. One of the middle joints consists of two parts which screw into each other, by which a rotatory movement is obtained.

The injecting material I commonly use is a solution of Canada balsam in ether.* The colors to be mixed with this solution, are those fine oilpaints, contained in small leaden tubes and commonly used in the fine arts; they are easily dissolved by the ether. Of these the prussian blue is the finest and most transparent; its solubility is so great that it is even absorbed by organic cells.

I have not yet had occasion to use the apparatus for any of those materials, requiring warmth to keep them in a fluid state, but I think it could be adapted to this purpose, by placing spirit lamps between the legs of the glass cylinders; the organ might be kept in warm water contained in the basin, whose temperature too might be retained by spirit lamps.

The colors I generally use for injection of the liver are: prussian-blue for the duct, chrome-yellow for the artery, vermilion for the portal vein, and white for the hepatic veins. I formerly used chrome-yellow for the hepatic duct, but I find the prussian-blue preferable. I usually inject the artery or duct first, or both together; after this, the portal and hepatic veins. If an injection is intended for research, the vessels should not be overfilled, as the principle object in that case is to study their distribution and relationship. In fine, the injection should always be suited to the particular study for which it is intended.

* See American Journal of Medical Sciences, January, 1859.

ART. IV.—*Portable Operating Table*: By EDMOND SOUCHON, M. D., Assistant to the Professor of Anatomy, University of La., and Visiting Surgeon to the Charity Hospital, New Orleans.

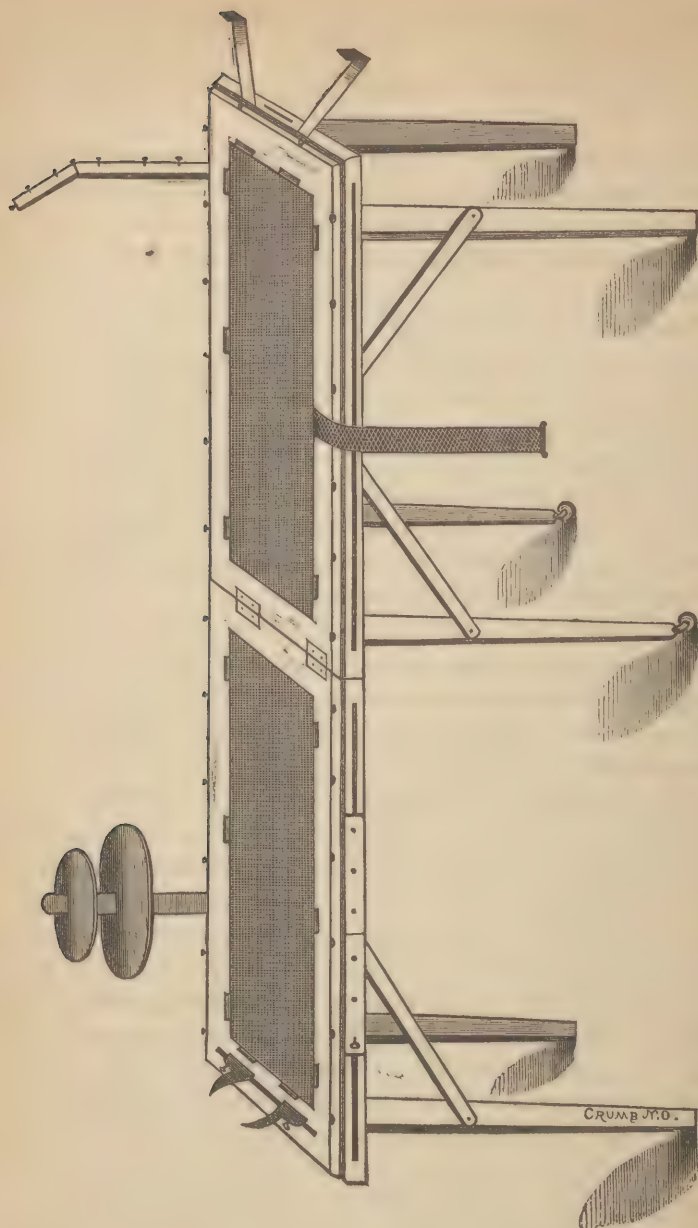
THE want of a proper operating table has seemed to me a desiderata in surgery, and at once I summoned what little inventive faculties I was endowed with, and brought out the following invention.

The table is five feet and a half or six feet long; two feet wide and three feet high. It is supported by six legs, the two middle legs only being provided with small brass rollers. The legs are so disposed that they can be folded under the platform of the table. When the legs are unfolded and the table is standing, they are prevented from falling in or giving way by narrow bars of wood which extend from the frame of the table to each leg. The platform itself is composed of two halves which work on hinges, and can be folded one upon the other. The centre of this platform is not of wood, but of strong canvas or leather, thus combining solidity with lightness.

All around the table are sixteen strong linen straps passing through small slits along the edges and rolled on wooden spools, provided with strong steel springs. Each spool is independent of the others. The free end of those straps present numerous button-holes, which, when used, are to be fastened on the opposite side of the table, to button-headed screws, which are freely distributed all around the table. By means of those straps the patient is buckled down, when necessary, in a half minute's time, and is as quickly put at liberty; for as soon as the strap is unbuttoned, let loose—it is again rolled around the spool, and is, in a second, out of the way and out of sight.

At the the head of the table are two gently curved upright pieces which glide readily in grooves and are fastened at any point by means of a screw. Their purpose is to keep the head steady whenever necessary, but especially when operating on the eyes. Those upright pieces are so disposed that they may be folded down, and be out of the way when they are not needed.

At the foot of the table are two arms, to rest the feet of the patient, in examinations of, or operations on, the genital parts or the anus. Those pieces glide in and out of a groove or sheath



concealed under the table, and are made fast at any point by means of a screw for each. This contrivance could be placed at the head of the table. In this case the two head pieces could be used to steady the pelvis, when necessary.

Four or more upright pieces glide also in grooves along the edge of the table, and being also provided with screws, can be made fast in the vertical position, when they are to be used, or in the horizontal position, when they are to be kept out of the way.

Their purpose is manifold.

First, they can support one or two light stands made of a thin border or frame, and of a canvas or leather bottom or platform, and provided with square pegs fitting into square holes, chiseled in the uprights; they are made so as to rotate readily in the extent of a half circle, so that they can be quickly pushed out of the way or taken out altogether. Those stands are to support the instruments which are in this way at the hand of the operator. Another frame, circular in shape, but with no canvas, is destined to receive and support a light tin basin for the water and the sponges, which are thus also at the hand of the surgeon. The upright near the foot of the table, and on the left, serves, in place of our "*Speculum Holder or Retainer*" to keep Sims' speculum in place, in all cases of *vaginal* examinations or operations. (See N. O. Journal of Medicine.)

A light reflector, or two, with a similar mechanism and adaptation can be supported by the nearest upright, and throw a gush of light in the field of the operator, which would be very gratefully received on many occasions.

Lastly, I think that, in some operations at least, the edges of the wound can be kept asunder by means of blunt hooks, provided at their free ends with an elastic string, which is made fast to the button headed tacks of two uprights brought in proper position. As the patient is bound down by the straps, no injury can result from the fastened hooks; however, to relieve the mind of the possibility of any accident, the strings are elastic, so as to yield to some extent under any unusual tractions. By means of this system, one or two assistants could be dispensed with, and this would be a great advantage, for an assistant is often a head

in your light and two hands in your way. When the table is folded, the stands, basin and reflector are put away under the platform, where a gum-elastic strap, under which they are slipped, keeps them tightly in place.

When the table is folded and packed up it is as small and condensed as it is possible to make it. It must be made of a sort of wood that is strong and light at the same time, such as poplar, for it must not weigh more than sixty-five pounds, to be easily carried by a man. In this folded condition, it is enclosed in a sheet of strong canvas.

The advantages I claim for this operating table, are the following: It is altogether new and unlike all that has been made of the sort, and is original with us. It is portable and can be carried to any place, by a man or in a buggy.

When called upon to operate on a patient out of his office, the surgeon sends his table to the house and thus avoids all annoyance of hunting out a table in the house, or of borrowing one, or of buying a suitable table; and how often it is that the table is too short or too long, too narrow or too wide, too low or too high, etc. The platform of the table being made of canvas or of leather; there is no necessity for a mattress, and the table being well-painted and varnished, there is no fear of its being stained by the blood and thus few napkins are sufficient in an operation. By means of the straps the patient is efficiently secured on the table and there is no more need for assistants to hold him. It might be thought that with the chloroform, there is no need of that, but during the exciting period of the inhalation of chloroform there are often most violent movements on the part of the patient, and when during an operation the patient happens to wake partially, there is, at times, such struggle with him that four or five men can hardly keep him down, so much the less that his strength is much increased by the exciting influence of chloroform given in insufficient quantity.

The middle legs of the table being provided with rollers, the table can be wheeled around in a minute, by lifting an end, especially the head, and thus the part operated upon is disposed, so as to receive the best light. The stands adapted to the upright keep the instruments at the hand of the surgeon; and in a most

handy place to lay them on instead of laying them on the bed, where it is often difficult to find when they are to be used again, and where they might wound the patient or the surgeon, especially when the patient is reckless. I shall only recall here what we have said above of the advantages of the basin and of the reflector.

I here gladly express my grateful thanks to Prof. T. G. Richardson, of the University of Louisiana, for the encouragement I received from him on this particular occasion.

ART. V.—*Brief Remarks upon Dr. Faget's Malarial Catarrhal Hemorrhagic Fever.*

To the Editors of the N. O. Medical Journal :

GENTLEMEN—Your October Number for 1869, contains a lengthy article—"to be continued"—by Dr. J. C. Faget, in which he dwells upon a fever he believes to have discovered, and which he has been pleased to designate as "Malarial Catarrhal Hæmorrhagic Fever."

Far be it from me to arouse anew the polemic long sustained between us, in which I had endeavored to prove, that led astray by an excess of deference to that popular tradition that would reject all possibility of the Creoles contracting yellow fever, he had failed to recognize this same fever whenever it presented itself in creole children, and was therefore compelled to coin a new name under which to designate it.

Having lost his suit before the medical corps of Franco--creole origin-- Dr. Faget now appeals from their decision to the arbitrament of the Anglo-American faculty of this city. I claim, therefore, as both my right and duty to resume and submit likewise to this new tribunal the same arguments which I formerly opposed to his views.

Are the creoles of the city (those from the country I rank under the same category as strangers) susceptible or not of contracting yellow fever? This is the main question, and it will constitute the burden of the present controversy. It is one of paramount importance in its bearings upon the treatment and prognosis. This the doctor acknowledged as emphatically as I do, in his remarks upon the subject in July, 1860, viz.

"Do the creoles of the city have or have not yellow fever? It is through observation alone that this question can be answered. Give us, then, FACTS, correctly observed FACTS, PROVING facts, undeniable FACTS, you who uphold the new and heart-rending opinions! But to ask from you such facts, is to warn you that you must suffer them to be subjected to the crucible of criticism. You may exact sincerity and loyalty from that criticism, but do not be astonished if it be severe; it must be so, for a very grave question is here mooted; one of such general interest that too much care or too great firmness cannot be attached to its discussion." (Fifth letter upon yellow fever, or second answer to Dr. Deléry by Dr. Faget, Journal of the "Société Médical," of New Orleans, July, 1860, 2 vol., p. 13).

Let me here state that I have answered the call of my "confrère," and have furnished "facts," "well-observed, proving facts," gathered not only from my practice, but also from that of physicians distinguished by their acquirements and good faith. I will quote but one case from among fifty, a truly typical case of typhus ichterodes, and will, once more, invite Dr. Faget's attention to an observation furnished by Dr. S. Martin, published in my Memoir of 1867, p. 69. The little girl was born in New Orleans, and had never left it. Will my colleague oblige me by informing me what symptom of yellow fever is wanting in the tableau drawn in this observation.

On the other hand, one hundred and ten physicians testify, by their certificates, that three hundred and five creole children have died of yellow fever during the epidemic of 1867. Can it be presumed that one physician could see more clearly than one hundred and ten into these cases. If Dr. Faget claims that his observations and those of his adherents are alone entitled to credence, all discussion is superfluous. At page 781, N. O. Medical Journal. Dr. F. says: "*The reason why I thought that these black vomitings of children did not appertain to yellow fever, was, that I did not believe that young children were subject to yellow fever.*" Here is a glaring illustration of the struggle of a dogmatic spirit with a rebuking reality. Instead of starting from a fact to come to a belief, he starts from a belief to arrive at a fact, which he afterwards interprets according to the exigencies of his case. Thus

it is, that led by the same spirit, he establishes the following corollary:

“And I was afterwards led to treat them as symptoms of paludal fever, from the fact that the *courses* of those fevers pointed out their nature.”

Well, this fever, from which Dr. Faget withholds its name of yellow fever, whenever he meets it in creole children, under the plea that he does not believe them to be subject to it, this same fever has been observed likewise, by *all* the physicians of New Orleans, all of whom, a dozen excepted, have agreed in recognizing it as yellow fever. This host of adversaries does not seem, however, to have in the least modified or shaken his belief. He reproaches me, in a certain passage of his correspondence, with having mistaken a case of intermittent for yellow fever. I would not prolong indefinitely this discussion, and will therefore admit that I have committed the alleged mistake, but has he not also reflected upon the innumerable errors he has fallen into since, for twelve years, during which period he allows regiments of children to file off under his gaze, smuggling yellow fever under the mistaken colors of “Malarial Catarrhal Hæmorrhagic Fever.”

But let us come to the capital point—and here I will use the Doctor's weapons against himself.

Dr. Faget had pointed out the *regular* and *progressively declining* pulse in yellow fever, and *mucous hypersecretion* in his malarial catarrhal, as differential characteristics of these two diseases. To these I advanced facts that destroyed his assertion. He replied:

“In the midst of a discussion upon yellow fever of the country, Dr. Deléry represents me as upholding the theory that the vomiting of *catarrhal matter*, and the *fall of the pulse*, are the differential characteristics of these two diseases, i. e., malarial and yellow fever. It is thus that Dr. Deléry excels, in endeavoring to impose upon his adversary a discourse which he has never held, or even the very reverse of what he has said.”

This was certainly a very serious accusation. I answer by quoting Dr. Faget's own text:

“4th. At last I come to malarial fever. Yellow fever, when pure, freed from influences not malarial, is a continued synochial fever, with a regular, rapid, decreasing march, and yields not to quinine. I cannot too strenuously call the attention of my “*confrères*” to the *general fact* which I have made known in page 84 of my “*Etudes Médicales*” of 1859, of the decrease of the pulse

from the *first* to the *second, fourth* or *fifth* day, in genuine yellow fever. This, in my estimation, is the *principal character* of yellow fever."

"2d. Malarial fever, in general, and even the *most continued*, apparently, is pseudo continued, and quinine, when properly administered, acts most often efficaciously upon it."

Is not the pulse clearly pointed out here as a means of differential diagnosis? Cannot any one, not necessarily versed in medicine, perceive at once the contradiction. The following is still more explicitly rendered:

"It is then, principally from the attentive examination of the march of the febrile movement, exactly ascertained several times through the day, with a second-hand watch, that the most appreciable differences can be drawn between yellow fever, and our intense form of country fever. One-half of the task is already fulfilled; it is a settled fact, that of the regular decrease of the pulse from the first or second, to the fourth or fifth day in yellow fever; there now remains to gather a sufficient number of complete facts, taken down at the bed-side, in order to positively ascertain, whether on the contrary, the febrile movement from the first is not *irregular* with *remissions* and *exacerbations*, in those forms of country fever that are taken for yellow fever, from the fact that they are accompanied by the "cortege" of black vomit, jaundice and passive hæmorrhage. *What I have seen, particularly in 1853 and 1858, in our neighborhood and at Bay St. Louis leaves no doubt in my mind upon the result that will be arrived at.*"

There now remains the question of the presence of "catarrhal matter," which Dr. Faget holds out as the property of his "malarial catarrhal" fever. "Point out," said he, "those passages of my memoirs of 1817 and 1819, on which I have ascribed to yellow fever, the mucous hypersecretion, the presence of which has so much struck me in the malarial catarrhal fever, which I have been studying since now many years. Dr. Deléry will then appreciate the peculiar interest which I attach to this question."

The satisfactory response which I made to this challenge, brought from the doctor another contradictory reply:

"With regard to mucous hypersecretion in yellow fever, Dr. Deléry could have spared himself his painful researches to endeavor to convince me; had he but continued to read page 47 where he was pleased to pause, he would have met the following passage:" "On the other hand, I was enabled, during this same epidemic, (1853) to perform four autopsies of *genuine yellow fever* upon adults, two in the city and two in the Charity Hospital. In all four, I observed a large increase of mucous secretion."

The author is not here satisfied with contradicting himself, but furnishes, from his own declarations, proofs against himself.

Allow me also to remind the reader, that in the outset of our discussion, Dr. F. claimed that creole children, born and raised in the city, alone possessed immunity from yellow fever. He has since then seen fit to alter his opinion by extending the prerogative to all children generally.

I will close this refutation, rather too lengthy for my taste, by transcribing here a page from my second and last reply to Dr. Faget, published under pamphlet, March 20, 1868 :

1. "It is traditionally affirmed that yellow fever has smitten the creoles during the epidemics of 1796 and 1799. The report of 1818 informs us that the creoles of the city were not exempted from it during the epidemic of 1817. The report of the epidemic of 1819 equally states several cases of deaths among the creoles of the city, affected with typhus icterodes.

2. The epidemic fever of creole children only appears during the prevalence of typhus icterodes, either sporadic or epidemic.

3. Its invasion, symptoms, march and termination are the same as those of yellow fever, and the same treatment equally applies to both diseases.

4. The epidemic fever of children affects only as an exception, the negro, otherwise so prone to intermittent fever.

5. This same epidemic fever smites neither *acclimated foreigners* nor *aged creoles*, in other words it spares only those who have had yellow fever, (the creoles undergoing from their infancy a process of acclimatization.)

These five propositions constitute the basis of my thesis which he (Dr. Faget) dared not touch, conscious of his inability to overthrow it. In order to prove the error of my thesis and the correction of his, *let him overthrow these five propositions.* I CHALLENGE HIM TO THE TASK.

I hope, sirs, I have as clearly and as briefly as possible, offered you a "resume" of a protracted debate with Dr. F. I withdraw from the lists, leaving the field to him, fully persuaded that neither on this side, nor on the other side of Canal street will his "Malarial Catarrhal Hæmorrhagic" fever find claims to existence.

I remain, Sirs, most respectfully,

DR. CHAS. DELÉRY.

ART. VI.—*A Case of Necrosis of the Cartilages of the Larynx, Complicated with Stricture of the Œsophagus:* By EDMOND SOUCHON, M. D., Assistant to the Professor of Anatomy, University of La., Visiting Surgeon to the Charity Hospital, New Orleans.

THE patient who is the subject of this observation, is a man of about forty-four years of age, having enjoyed very good health until two years ago. At that time he was taken first with the symptoms of stricture of the œsophagus. He applied to the most prominent medical and surgical talents of this city, and though bougies were often introduced in the œsophagus, he derived no benefit from the treatment. About eight or nine months ago his breathing gradually became impaired; and, after a short time, he presented all the symptoms of a double stricture of the trachea and of the œsophagus. Dr. Touatre who was attending him just then thought that some syphilitic disease might be the cause of the trouble and administered iodide of potassium, but without any satisfactory result. Thinking that some surgical operation might become necessary, particularly to relieve the breathing, Dr. Touatre called upon me to see the patient with him. At that time the breathing was as much impaired as was consistent with life, and the patient had had several attacks of dyspnœa which had put his existence in jeopardy. He could scarcely swallow even fluids, and was as thin and emaciated as a phthisical patient in the last stage. The examination of the throat with the laryngoscope showed no alteration of the lining membrane of the larynx. Upon examining the neck, we found, below the cricoid cartilage a vague tumefaction which was painful upon being touched.

This made us think of some tumor, very likely cancerous, involving the œsophagus and trachea or of the œsophagus alone, but with pressure upon the trachea or upon the recurrent laryngeal nerves. The difficulty of breathing being the most threatening symptom we concluded to perform the operation of tracheotomy as soon as it had become indispensable. The patient having been taken, a few days afterwards, with a dreadful attack of dyspnœa, we thought proper not to delay the operation any longer. It was performed the very same day, and the relief of the respiration was immediate and so considerable as to render the act almost natural.

The dysphagia also was so much relieved that the patient was able to swallow bread and meat as readily as before he was ill. In consequence he recuperated so rapidly that a couple of weeks after he could be seen walking on the streets. This bettered condition maintained itself for five weeks, during which he was compelled to wear the canula; any attempt to take it out bringing on again the same difficulty of breathing. He was doing so remarkably well that not being certain of the true nature of the disease, we thought that he might possibly recover. But one morning, having been imprudent the previous day, he was taken with an abundant hæmatemesis, and the same old difficulty of breathing and swallowing reappeared. The hæmorrhage was checked by the usual means and the respiration soon became as easy as before, but the dysphagia remained and persisted as bad as before the operation, rather increasing every day than diminishing. From that moment the patient declined gradually, though he had always been fed by the rectum, as well as possible from the very beginning of the dysphagia. He finally died from want of nourishment, as is the case in such instances, three months after the day of the operation.

The post-mortem being made, the cartilages of the larynx were found necrosed and loose; the lining membrane of the larynx was intact, except below the neighborhood of the cricoid cartilage, where it was of a livid hue. The coats of the œsophagus were infiltrated and hardened with lymph and considerably constricted. The part of the œsophagus which was above the stricture was dilated, softened and in a suppurated condition; there were small openings, establishing a communication with the trachea.

The difficulty of a correct diagnosis in this case was very great, if not impossible, as the primary disease of the cartilages gave rise to symptoms pertaining to the œsophagus; as there was no alteration in the larynx upon examination with the larynoscope. It was only a long time after the dysphagia had showed itself that signs of the impairment of the respiration made their appearance, and it was then very natural to suppose they were secondary to an affection of the œsophagus.

ART. VII.—*On faulty Nutrition, considered as resulting from Torpid Portal Circulation ; its Causes and Treatment.*—By A. F. A. KING, M. D., Washington, D. C.

OF late years clinical experience has established the general principle in practice, that the cure of disease depends less upon supposed medicinal specifics than it does upon the reparative powers of the organism itself; and hence has arisen the practical indication—now universally recognized by successful physicians—of supporting the vital strength of the patient by preserving, as far as possible, the integrity of his nutrition. This is equally necessary in both acute and chronic organic disease, as well as in other affections, such as some fevers, unaccompanied with organic lesion. Even when an individual confesses himself well, but in whom the *degree* of health is evidently below the normal standard, as manifested by leanness, weakness of the muscles, nervousness, pallor, deficient intellectual power, despondency, etc., we may frequently trace the want of vigour to an imperfect performance of the nutritive function.

Now for the proper nutrition of the organism there is required a perfect elaboration, from food, of nutritive materials, and also a sufficiently complete absorption of those materials. But neither digestion nor absorption can be perfectly performed when the circulation of blood through the digestive and absorbent organs is below its normal rate of activity. It is proposed therefore, in this paper, to discuss some of the causes that lead to torpid circulation in these organs and to the means whereby such a derangement may be in some measure corrected.

It should here be remembered that the blood sent to the chylopoietic viscera through the arteries is returned by the portal vein to the liver. It cannot, however, get back to the ascending vena cava and so re-enter the heart without having first traversed the *capillaries* of the liver. In the digestive circulation therefore, there exists the peculiarity, (observed neither in the systemic or pulmonary circulations, or any where else in the economy), of blood having to permeate a set of minute capillaries without the force of an arterial impulse to assist its progression through them. That the portal circulation should be liable to become languid under such circumstances, is not a

matter of surprise; especially when the particular arrangement designed by Nature to surmount the difficulty is interfered with.

Naturally, there is ample provision made for carrying on the digestive circulation, independent of the pulsations of the heart, for it is under the direct influence of the pressure of the diaphragm and abdominal walls; this pressure is absolutely indispensable to the normal circulation of the blood through the abdominal organs, and particularly so to its passage through the capillaries of the liver. In proof of this, physiologists furnish the following experiment:

A small opening is made in the abdomen, and a portion of intestine withdrawn. An hydrometer is then placed in one of the mesenteric veins and the intestine returned. The liquid in the hydrometric tube will now be observed to oscillate at each respiratory act, rising during inspiration, because the abdominal contents are then pressed upon by the descent of the diaphragm and the contraction of the abdominal muscles. This pressure, and the height of elevation in the tube will be always in proportion to the *depth of the inspiration*.

If, while the instrument is still in place, the walls of the abdomen are largely opened, so that pressure is obstructed, not only will the oscillations in the tube cease, but there will be regurgitation of blood from the inferior vena cava and liver into the portal and mesenteric veins. It is the removal of this pressure, and the consequent regurgitation of blood, that produces syncope, after paracentesis abdominis, for ascites.

The *causes* of languid portal circulation, therefore, must be sought in the various conditions that diminish the diaphragmatico-abdominal respiratory movements. Chief among these may be enumerated, muscular indolence, mental depression, prolonged silence, and certain mechanical appliances.

That want of physical exercise, or *muscular indolence*, and a sedentary life, have an injurious influence upon the bodily functions generally, and particularly upon the function of nutrition, is a fact known and acknowledged, by almost every one. At the same time, we daily meet with individuals—subjects of nervousness, dyspepsia, general malaria and debility—who, though they take care to stroll a certain number of miles, or to

be driven a given length of time, per day, in a carriage, come to us with the complaint that they fail to derive from it any decided benefit, and so losing confidence in the remedy, again yield to indolence, relying for a cure upon the specific agency of drugs. In this view too, the physician, placing confidence in the statement of his patient, will be frequently tempted to coincide.

For such cases, therefore, the mere recommendation of "exercise" is not sufficient. What is wanting, is, a proper regard to the *kind* of exercise, or rather, the *degree* of exertion. The main point should be to exact from the patient, daily, such a degree of vigorous muscular activity as will be sufficient—not only to assist the circulation through the "*systemic*" vessels, by the alternate contraction and relaxation of the voluntary muscles upon the veins—or to enliven the "*pulmonary*" circulation by a gentle increase in the thoracic respiratory movements; but also to arouse into *full play* the accessory respiratory motions of the *abdominal walls and diaphragm*, thereby directly exciting increased rapidity of the "*portal*" blood current. We all feel benefited after a day's hunting, and for the simple reason that in the heat of pursuit—in the excitement of the chase—we have not only breathed but "panted." Nutrition is generally vigorous in boys and girls at school, because, in playing out-door games, they do it with such a "right-good-will" as to "get out of breath." In both these instances the chief benefit is to be ascribed to the *degree* of exercise being sufficient to arouse into full vigor the accessory respiratory motions of the abdominal walls and diaphragm. And how very different from this is the *so-called* exercise of the sedentary hypochondriac, who, [stepping carefully from his studio, stalks forward, almost with the precision of a cast-iron automaton, and with twice as much solemnity, to perambulate a given number of miles (or, it may be yards) in a given number of hours, only to go back to his physician with the whining lamentation that he is "very tired and feeling no better." The portal circulation, in such a man, is still asleep, or very nearly so; nor will it be aroused until muscular indolence is exchanged for *real* exercise, of the kind or *degree* above referred to.

A *second* cause of torpid portal circulation—and one frequently

associated with the preceding—is *depressing mental emotions*, with which may also be included, *close application to study*.

These are both generally admitted to be causes of ill-health, but our ideas of the effect produced are somewhat vague and skeptical, inasmuch as the link between cause and effect, is not well defined.

I therefore propose to show that the *modus operandi* of the cause must be sought in its influence upon the diaphragmatico-abdominal respiratory movements.

Whenever the attention is closely fixed upon any subject of study, respiration is in a great measure suspended; but the feebleness of the respiratory act is in part compensated for, at intervals by occasional long-drawn sighs. Each of us too, has perhaps noticed the shallowness of his own inspirations when under the influence of depressing mental motions, such as grief, fear, anxiety, etc.; and also the deep-drawn sigh that occurs instinctively, at intervals, as if on purpose to give the stagnating current in the portal blood-vessels an occasional lift. The expressions "*breathless anxiety*," "*breathless suspense*," etc., are familiar to all of us; so long as an individual is burdened with these emotions, especially if he should also be indolent, active digestive circulation is impossible. A temporary relief is sometimes afforded under such circumstances, especially in women, by fits of crying, after which they always feel better; but the "*relief of tears*," we may readily conceive, is far more easily explained by the spasmodic action of the diaphragm and abdominal muscles that attends sobbing and crying, (thereby rousing the portal circulation), than it is upon the more common supposition of a distracted brain being relieved by a few drops of liquid from the lachrymal glands. At any rate it must be admitted that the mental conditions referred to, are invariably attended with shallowness of inspiration; the vigor of the abdominal and diaphragmatic inspiratory acts is below *par*, and hence, in an equal degree must there be torpor of the portal circulation.

But the influence of emotions upon nutrition may be still better illustrated by referring to those of an exhilarating character, such as hope, joy, cheerfulness and hilarity. Here, not only do we find the thoracic respiration carried on at its normal rate, but it

is actually exaggerated, and particularly so are the diaphragmatico-abdominal respiratory acts. This may be best observed in the spasmodic contractions of the diaphragm that attend laughing, and there is probably nothing that so directly insures activity of the portal circulation as indulgence in the "risible emotion." Thus in persons of a cheerful disposition who laugh much habitually, we generally observe the body pretty well nourished, and hence doubtless has arisen the popular phrase, "laugh and grow fat." At no time perhaps are cheerful feelings and moderate laughter, as well as singing, more conducive to healthful nutrition, than after a hearty meal, for it is at this time that activity of the portal circulation is especially needed to accomplish digestion and the absorption of chyle. And thus it is that we all have an instinctive inclination for jollity and fun after a generous repast and naturally delight in humor and the risible passion, without being conscious of the aid thus imparted to the digestive circulation. We love it instinctively because it does us good.

It is not improbable also that the desire for stimulating drinks, so general among mankind, and the inward feeling of being benefited by them when taken in moderation, has really arisen from the assistance to nutrition afforded by the vigorous portal circulation consequent upon the above-mentioned muscular movements attending the pleasant emotions excited by alcohol. Indeed it is not altogether outside the range of possibility to say, that the admitted "specific," or "nutritive," action of alcohol in tubercular disease may be explained upon this principle.

Under circumstances where an individual remains quiet after a full meal, whether from choice or necessity, and when the portal circulation is *not* aided by laughing, singing and so on, the organism originates another exaggerated respiratory motion by which the inspiratory pressure is at intervals increased, and the digestive circulation thereby accelerated, viz., that of *gaping*. This always occurs in persons who eat heartily and at the same time are indolent and morose; it is a substitute for laughing. The same thing may be observed in fattening animals, when denied healthful exercise. An over-fed pig, confined in a small space with a view of increasing its fat, when awake and not eating, gapes so frequently as to appear almost absorbed in the

process as a mode of employment. On being aroused from an after-dinner nap, this same irresistible inclination for frequently repeated gaping is manifested in ourselves—a circumstance that would not have occurred, had the post-prandial hour been passed,—as it should have been—in cheerful converse and joviality.

This part of the subject may be rendered clearer by a brief reference to the *physiology* of gaping. Upon examination we find it to be a reflex act, but very little under voluntary control. When about to gape, we may hasten or postpone it for a short period by an effort of the will, (as in the case of deglutition) but frequently it takes place in opposition to the will; and again it is not a motion that we can repeat, indefinitely, by any amount of voluntary effort. The sensitive impression from which the reflex act originates, is evidently received by nerve filaments just beneath, or on the inferior surface of the diaphragm, for it is to this region that the sensation of a desire to gape is always referred. And that the stimulus itself is really pressure on the under surface of the diaphragm, caused by congestion of the portal circle, may be inferred from the following facts: 1st, when the portal circulation is kept active, by vigorous diaphragmatic motion, as during exercise, singing, laughing, etc., the disposition to gape does not occur. 2d. The act of gaping having occurred once, and accumulation of blood in the portal vessels having been thereby relieved, there is no desire, nor even power, to repeat the act, until a re-accumulation of blood in the same vessels has taken place;—just as in the case of deglutition, when the contents of the pharynx have been once swallowed there is no power or desire to repeat the process until a second bolus of food is introduced. 3d. When the portal circulation is *extremely* torpid, and the digestive viscera in consequence greatly congested, as in the cold stage of ague and tropical fevers, gaping is repeated almost incessantly. 4th. Pressure from below, upon the diaphragm, resulting from distension of the stomach with flatus, is also accompanied with very frequent gaping.

It may be further observed that in gaping, the deep inspiration is almost exclusively abdominal; the chest expands but little, its muscles being almost fixed, while the diaphragm is forcibly

depressed. Any one can test this in his own person, by placing the hand upon the chest while taking a deep gape.

I have dwelt thus long on the process of oscitation because it is one about the causes and uses of which, physiologists have so far said little or nothing. It may usually be regarded as an indication of torpid digestive circulation; and since it is the consequence of mental and bodily apathy, prolonged silence and solitude, and the absence of cheerful society and occupation, all these may be regarded, together with depressing mental emotions, as causes of feeble digestion and imperfect nutrition.

We may next refer to torpidity of the digestive circulation occasioned by certain *mechanical appliances*. One of these is *tight lacing with corsets*. While the lower portion of the chest and the upper part of the abdomen are tightly embraced by walls of steel, as they really often are in those who wear stays, it is impossible for the diaphragm and abdominal muscles to perform their inspiratory motions freely, and hence circulation through the chylopoietic viscera must be greatly impeded. To this cause, doubtless, may be reasonably attributed the obstinate constipation so common among females; and the inefficiency of purgatives and tonics, in such cases, where the cause remains, may be accounted for upon the same principle.

A very similar impediment to the digestive circulation—occurring too at a time when of all others, activity of that circulation is most needed—may be found in the *binder applied to infants after birth*. In foetal life the pulmonary and digestive circulations are both of them comparatively quiescent; for there is then no respiration and no digestion going on, to need activity of the blood-movement. But after birth, when both these functions go into operation, the current of blood through their respective organs becomes more rapid. Hence we find the motions of the chest in breathing, not only lead to inflation of the lungs, and the direction of an increased quantity of blood through the pulmonary arteries, but the consentaneous action of the abdominal walls and diaphragm, exerts a like power in starting the digestive circulation and directing an increased quantity of blood into the chylopoietic organs.

We have no reason to infer that one of these circulatory systems

is of less importance than the other. Indeed, Nature seems to have been equally careful in providing for the perfect establishment of both of them; for not only is the infant made to inspire when it comes into the world, so as to inflate its lungs and start the pulmonary circulation, but it is also induced to cry,—an act during which, the diaphragm first descends and then the abdominal muscles rigidly contract themselves, (becoming straight, almost like little boards) and thus give the first impetus to an augmented wave of blood through the abdominal organs. When, however, the chest and belly of the child are braced in a straight-waistcoat of pins and bandages, it is impossible for a full inspiration to take place; impossible for the portal circulation to preserve its normal activity; and almost impossible for the infant to escape a certain amount of jaundice and other digestive ailments. Especially will this be so in those instances, where the liver and abdominal organs are embarrassed with an excess of blood that ought to have escaped at the time of delivery, through the unligated funis.

It might here be remarked that the cry of new born infants is not to be regarded as an indication of pain, but rather as a reflex functional act designed for the special duty above-mentioned. It is analogous to the bleating of lambs, calves, and the cries of other young animals, in all of which it probably answers the same purpose of aiding the portal circulation. It is worthy of notice that very young infants never laugh; nor do they gape, except when gorged with food or compressed over the abdomen with a bandage; but then the act of oscitation recurs quite frequently.

We have now endeavored to explain the *modus operandi* of muscular indolence, depressing emotions, and certain mechanical appliances in causing deranged digestion and consequent impairment of the function of nutrition—all of them exert their injurious influence by curbing the motion of the abdominal walls and diaphragm.

Treatment. In treating the impaired nutrition referred to, and its legion of attendant evils, the removal of the causes mentioned above, is of course a *sine qua non*. But not this alone. The cause has already done its work—there has been a functional de-

gradation of the organism. To restore it, something else is required beside the mere recommendation of a particular kind of muscular and mental exercise. The hypochondriac cannot be cheerful if he would, nor can he who is languid, feeble and nervous, enter with spirit into any sort of exhilarating muscular recreation.

This brings us to enquire, how may we assist the portal circulation, and hence the function of nutrition, by medicinal agents?

Our main reliance must be upon occasional *emetics* and occasional *mercurial laxatives*, together, in some cases, with a moderate allowance of wine or some other exhilarating beverage.

The efficacy of emetics in rousing the portal circulation when it is torpid, is very widely known; they throw into violent action the abdominal walls and diaphragm. Yet there are many practitioners—converts to the extreme expectant doctrines now so fashionable—who altogether ignore their utility. There can be no better proof of the influence of emesis upon the portal circulation than is presented in the fact, that congestion of the portal vessels, such as occurs in ague, cholera infantum, and the “pernicious” remittent fevers of malarial districts, is invariably accompanied with obstinate vomiting; it is the *natural* remedy for portal congestion, which the physician cannot do better than imitate. In the chlorotic girl, with coated tongue and offensive breath, as in the sluggish hypochondriac, whose despondent life is one continued cloud of dismal apprehension, twenty grains of Ipecacuanaha, will work wonders. It may be repeated daily, or less often, as occasion may require, or until the digestion has so far improved under the influence of other remedies, as to qualify the patient for a cheerful participation in the ordinary exercises of mind and muscle. In cases of mental depression and insomnia, occurring in persons dejected by the loss of relatives, as mothers after the death of their children, how often do we find an emetic, compose the patient to sleep and invite the appetite to return, when anodynes, such as opium, assafoetida, and the potassic bromide, have totally failed!

In like cases, sternutatory remedies have a similar beneficial influence; they act, like emetics, by exciting the motion of the abdominal walls and diaphragm.

The influence of occasional mercurial laxatives in the cases under consideration is still more useful and important. After "the report of the Edinburgh Committee on the Action of Mercury" etc., we cannot ascribe to this medicine any effect of increasing the secretion of bile. But while the experience of ages proclaims the *utility* of the remedy, it surely should not be abandoned simply because its *mode* of action is unknown. Mercury in sufficient doses to act as a laxative, (it has been shown by the committee), diminishes the biliary secretion by "draining the portal blood from which the bile is almost entirely formed." But why may it not do good in this way, as we have formerly supposed it to do by increasing the biliary secretion? Is it not as likely that digestion and nutrition may be impaired by an *excess* of bile as well as by a scarcity of it? At any rate the fact remains, (if I may be permitted to add the testimony of my own experience to that of hundreds already recorded), that in cases of chronic debility from torpor of the liver and other digestive organs; in constipation and melancholia; especially in ammenorrhœa dependent upon anæmia and chlorosis, as well as in incipient tubercular disease, no course of treatment is attended with more decided benefit than an *occasional* laxative of blue pill.

The celebrated Abernethy, of London, one of the most successful practitioners of his day, particularly in the treatment of *chronic* diseases (and it is in these cases especially that we can do little but sustain nutrition while Nature effects the cure), won his reputation and achieved his success almost upon a single prescription, which he prescribed for nearly everything.

This consisted of a pill containing three grains of Blue Mass, not given every two or three hours, so as to "induce salivation and deteriorate the general health," but only about every three nights, at bed time, so as to afford an occasional stimulus, to the sluggish circulation in the portal blood-vessels; thus securing a more thorough digestion and absorption of food, and hence a more exalted nutrition, from whence the cure seemed to follow as a natural consequence.

The great secret of success in this alterative method of medication, (for such we may call it), is: 1st, not to push the medicine too rapidly; and, 2d, to persevere with it a sufficient length

of time, taking the precaution to inform the patient that his recovery cannot be otherwise than gradual. Should there be no improvement or but little after taking two pills weekly, for a month, (which will seldom happen), this should not lead us to abandon the remedy or despair of final success. Eventually, in most cases, the tongue will clean; the appetite, digestion, and assimilation of food will improve, the vital powers of the system become more vigorous, until finally the desponding patient learns to "laugh and grow fat," when further medication may be dispensed with. The various tonics, such as bark, iron and cod-liver oil, even when associated with beef-tea, milk and other easily digestible aliments will hardly lead to any good result, while the circulation of the blood through the liver and other digestive viscera is torpid.

While, therefore, we cannot make a *feeble* man exercise vigorously, and in *this* way keep the abdominal walls and diaphragm in proper action; while we cannot make a *melancholy* man laugh, sing, or enter with spirit into the pleasures of social converse; and while it is equally impracticable to place him on a stool of repentance, with instructions to sit there and pass a given length of time in a succession of yawns, there appears to us no better way of imparting a new impetus to the stagnating current in the portal blood-vessels than by the occasional administration of mild emetics and mercurial laxatives in the manner described above. I am fully persuaded that I have succeeded in re-establishing a depraved nutrition by this course of treatment, especially in cases of incipient tubercular disease, in cases of melancholia with dyspepsia, and in amenorrhœa associated with chlorœsis, when other plans of medication had entirely failed.

When the patient is so far restored as to be able to return to the *natural* means (previously stated), of keeping up the activity of the portal circulation, any medicine will be of course superfluous.

ART. VIII.—*Preternatural Inflammability of the Human Body.**With Illustrative Case:* By W. H. WATKINS, M. D.

THE phenomenon of spontaneous combustion has occupied the attention of the most eminent exponents of medical knowledge from a very early period; but in the prosecution of this question, the doubt of authenticity of the facts causes us to be incredulous in a marked degree. Examinations, however, have evidently proved that although such a phenomenon as spontaneous combustion, *per se*, does not and cannot take place; the human body may acquire a preternatural inflammability, as can be recognized by the comparatively trifling cause of combustion, compared to the rapidity, and completeness of its progress. Granting then, that such changes may take place in the human body, which permit it to be more easily burned, the occurrence of the phenomenon must be entertained, although *science* cannot account for the changes.

Medical jurisprudence contains many examples of almost complete destruction of the human body, where the circumstances attending the burning prove that the cause, as far as can be ascertained, is inadequate to account for the complete carbonization. The fire being always disproportionate to the effect produced.

Under ordinary circumstances and conditions, the human body is difficult to consume. This is proved by the history of Martyrs, who have perished at the stake, and the suicidal widow burning, practiced in India. During the trial of Webster, for murder, the following evidence was given by Dr. Strong. He says: "In the pursuit of my anatomical studies I have had considerable experience in burning up, or getting rid of human remains by fire. When I had my office, at a very early period, in Cornhill, I had poor accommodations for dissecting, and it was frequently necessary to burn up the remains of a subject. Once, in particular, I had a pirate given to me, by the United States Marshal, for dissection; and it being warm weather, I wanted to get rid of the flesh, and only preserve the bones. He was a stout, muscular man, and I began upon it one night, with a wood fire in a large old-fashioned fire place. I built a rousing fire and sat up all night, piling on the wood and the flesh, and had not got it

consumed by morning. I was afraid of a visit from the police, and by eleven o'clock they called to know what made such a smell in the street. I finished it up, somehow that forenoon; but I look upon it as no small operation to burn up a body. The case recently published in the Medical Journals, of a woman in Paris burning up the body of her infant child, fully corroborates this testimony.

Yet, admitting that the phenomenon of preternatural inflammability is opposed to the laws of combustion as far as we know, we should not reject as unworthy of belief, the many curious and authentic facts on record. They may be true, however incorrectly accounted for. There are about forty-five or fifty cases now recorded, and although some of them may be fictitious, the majority of them are known to be authentic. The uniformity of the descriptions of this phenomenon, the age and habits of the person attacked, requires us to regard them as scientific facts yet unexplained.

The following characteristics are those generally described:

1st. "The extent and gravity of the burns is altogether out of proportion to the apparent external cause,"

2d. "The persons have been inordinately addicted to the use of spirituous liquors."

3d. "Women are more frequently attacked than men."

4th. "The great majority were aged and corpulent."

5th. "The combustion of the body has been nearly total, while the adjacent objects have been only slightly, or not at all burned."

6th. "The flame has been difficult to extinguish."*

Knowing well the incredulity of the profession, it is with misgivings that I publish the report of a case which happened in an adjoining State. But also knowing well that the gentleman, whose kindness permits me to give the details of the case, is a professional brother of undoubted veracity, I have no hesitancy in recording it.

The subject of this report was a man of some eighty years of age, and although so old, possessed remarkable energy and

* Wharton and Steele's Medical Jurisprudence, § 879.

activity. He had always enjoyed good health, but had indulged to an almost unlimited extent in spirituous liquors for many years prior to his sudden death. In none of his debauches did he have delirium tremens, but there was frequently evidences of great nervousness, and at one time suffered from partial paralysis of the right arm and hand. The stomach was the organ most affected by his drinking.

For two months before his death he had been continually under the influence of liquor. A few days before his death he was able to transact business, although at the time in bed and much prostrated. He had none of the symptoms of dissipation, though he was fully under the influence of liquor. He spoke of the business transaction with a clear understanding, showing that the brain was unaffected.

He had been confined to his room for some time before death, and had his bottle in a convenient place on the mantel-piece where he could reach it from his bed.

The facts presented to the jury of inquest were as follows: Very early in the morning his charred body was found lying in the fireplace and upon the hearth; the head resting on the occiput in the right corner of the fireplace. The thorax with the spine downwards lying in the fireplace and upon the hearth. The right arm flexed, the hand resting in the right corner of the fireplace near the head; the elbow-joint resting near the right jamb of the fireplace, between the jamb and andiron. The left arm extended; the humerus resting on the left andiron, which was turned on its side; the arm and hand resting on the hearth. The pelvis rested on the hearth. The right leg flexed, with the knee-joint resting near the right jamb of the fireplace. The right foot near the left andiron. The left leg extended. The femur resting on the hearth. The left leg and foot rested on the floor.

The body, as before remarked, was charred, and it astonished every one present, to see a body so completely destroyed by so small a fire as must have been burning at the time he fell in. The entire muscular system was consumed, with the exception of the left forearm and hand, and a part of the left leg and foot.

The latter was said to have been on fire when the body was found. The osseous, cartilaginous and ligamentous structures were all consumed; the heads of the bones not so much burned as the other parts. The eyes were burnt; the eyebrows not burnt. The teeth, which were sound and beautiful before death, were charred. The occipital bone was burnt through to the brain. On the right parietal bone was a spot of white hair not burned. The neck was so completely burnt as to have it detached from the trunk. The flesh of the left arm was cooked to the end of the fingers, (fingers much enlarged), and yet there was part of the sleeve of both under and upper shirts, not burned. The heart and lungs were cooked. Intestines crisp. The liver and spleen not examined. The genital organs were completely destroyed, not a vestage of them left. There was about two feet, near the hearth, burnt through, allowing a few of the bones to fall to the ground. No other part of the house injured. The silk handkerchief, which he was in the habit of wearing on his head, was found in the left back corner of the fireplace, not burned.

The position of the body as found by the jury was precisely that in which he would have fallen in getting from his bed to the fireplace. It was known to many present, that he was in the habit of getting from his bed to the fireplace, by grasping the bedpost with his right hand, and reaching the mantel-piece with his left hand. Failing to grasp the mantel-piece with his left hand, would have placed him in the position as found by the jury. The supposition was, that he fell in the fire in this way. There was nothing to indicate that any effort had been made to extricate himself from the flames, nor did any one hear a call for assistance. The body seemed to have remained in the position in which it fell. There was nothing brought before the jury which would indicate that he had been murdered. The body being too completely destroyed to show any marks of violence.

The jury found the verdict from circumstantial evidence, in the absence of all other testimony, that the deceased having been under the influence of alcohol for some time, fell into the fire, and having no one to rescue him, was burned to death.

ART. IX.—A Case of Tetanus Produced by the Administration of Quinia Hypodermically: By E. PAUL SALE, M. D., Aberdeen, Miss.

WAS called in the night of September 1st, 1869, to see Rowena P. f. w. c., aet. nineteen, mother of twins, aet. three months. Found her to be suffering from *malarial coma*, the result of a tertian intermittent fever of two months' duration. Desiring to rapidly quininize her, administered in the arm, by hypodermic injection, quinia, gr. vi, of an ethereal solution, with directions to give her three grains of the drug every two hours, when she should be able to swallow; other adjuvant remedies were addressed as were thought appropriate.

Sept. 2d. Found her much improved, she declared herself well, and was able to walk about the room, but complained of being weak, and having a "light feeling about the head;" directed the quinia to be continued in smaller doses, for three days, and dismissed the case.

Four days afterwards, (Sept. 6th,) she walked to my office, two miles, to show me her arm where I inserted the hypodermic syringe. It was found much tumefied, hot, and very painful to the touch. I prescribed for it, and desired, she would return if it did not improve. Saw no more of her until September 12th, when I was summoned to her, with the report that she had caught cold and had a "crick in her neck," which prevented her from working. I found on examination much trismus and slight opisthotonos; complained of no pain, except when she attempted to open her mouth, or move her head; pulse, 85; temperature, 101°; conversed rationally, and did not at all appreciate her condition. I ordered beef-tea and brandy, gave her a prescription of quiniæ sulph, gr. vii, morph. sulph. gr. $\frac{1}{2}$, atropiæ, gr. 1-30, every hour, until visible effects should be produced, and had her placed in as fine hygienic condition as circumstances would admit. After the first three doses the trismus had almost disappeared. I extended the interval between doses to two hours.

In my absence, the nurse in giving her beef-tea, poured it out too rapidly, which strangled her, and was followed by convulsions. After this the trismus returned two-fold, and the opisthotonos was well marked, her head almost touching her heels; breathing difficult, and sonorous; pupils contracted, and the eyes protruding; was unable to speak, except in broken sentences, but was perfectly rational; the pulse rose to 115, temperature 105°·4. Gave chloroform by inhalation until her muscular system was

somewhat relaxed, and her dysphagia had subsided, then gave the quinia-morphia and atropia every thirty minutes for two hours. She improved rapidly, and at dark, thirteen hours after first seeing her, and twenty-four from the announcement of last attack, she was sufficiently able to open her mouth so as to admit my two first fingers edgewise. Having lost sleep the night before, I retired for the night, directing that I be awakened should any untoward symptoms supervene. About 12 o'clock was told she was dying, and hurried to the house and found her dead. I learned the blundering nurse had raised her up to give her medicine and had again strangled her.

There are two points of interest developed by this case :

1st. It shows the deleterious effects which frequently follow the use of quinine hypodermically; for it so happens this is the fourth case out of ten in which I have had cause to much regret resorting to this method of medication, on account of the violent inflammation which has been the sequence. Not so, however, with morphia or atropia which I use with impunity.

2d. The power of quinia, morphia and atropia, in controlling to a great extent the spasms. I will add, that in the hands of a skillful and intelligent nurse, or had I remained by the bedside during the night, I feel confident the patient would have recovered under the treatment described. Her death was evidently apnoea on account of spasm of the glottis, immediately produced by the awkward administration of the medicine.

CHRONICLE OF MEDICAL SCIENCE.

QUARTERLY RECORD OF SURGERY.

Collated by S. LOGAN, M. D., Professor of Surgery, N. O. School of Medicine

A short article on the employment of carbolic acid in surgery, published in the *Bulletin General de Thérapeutique Médicale et Chirurgicale*, shows that authorities on the continent do not regard it with quite as much favor as some British surgeons do. Since, says our French contemporary with much justice, carbolic acid has become the fashion, it has been used, or rather abused, by attributing to it impossible properties; it obtains these marvellous properties, above all, in the hands of English surgeons, who are infatuated with it. Our French authority holds that in spite of the great powers attributed to it by Mr. Lister, the death-rate has been greater in Mr. Lister's hospital since its employment than it was some years ago before it was known; he maintains that the cases recorded of excision of the wrist, of fracture opening the ankle-joint, etc., cured without suppuration, are but exceptions, such as every surgical method can claim; that such is the case to some extent seems clear from the opinion of the merits of carbolic acid published by Dr. J. Bell.

Case of Cancerous Stricture of the Rectum, Producing Obstruction, Successfully Relieved by Colotomy: By T. B. CURLING, F.R.S.

MR. C——, aged forty-eight, a tall, hale-looking man, a market-gardener, was brought to me by Mr. C. Thompson, of Westerham, on March 13th, 1868, on account of obstruction in the lower bowel. It appears that he had been subject to relaxed bowels for three or four years, and that he had not passed a formed motion during that period. He had voided bloody mucus occasionally. His bowels having been confined for several days, he was induced to take some black draughts and large doses of castor-oil. They produced no evacuations, but caused vomiting; and he then sent for Mr. Thompson, who allayed the sickness with opium. He passed afterwards a very small quantity of liquid feculent matter. When I saw him, obstruction had existed for twelve days. His tongue was loaded, and he had lost all appetite. His pulse was tolerably firm. His abdomen was enlarged, but not extremely distended, and there was no pain on pressure in any part. On digital examination of the rectum, I detected, as high up as the finger could reach, a mass of induration, with a close irregular aperture, indicating a cancerous stricture. I had no hesitation in recommending colotomy to relieve the obstruction, and to retard the progress of the cancerous disease. On the 15th, I went down to Westerham, and performed the operation. Since the 13th, about half a pint of liquid feculent matter had escaped from the rectum, but the distension of the abdomen was increased. Chloroform was given, and the colon was found without difficulty. Not an ounce of blood was lost in the operation. Liquid feculent matter passed freely from the opening in the colon in the course of the day.

I did not see this patient again, but received reports of his subsequent progress from Mr. Thompson. In a letter dated March 19th, 1869, more than a year afterwards, he states: "The colotomy has answered its purpose admirably in Mr. C——'s case. There has been no trouble in getting free evacuation of the bowel, and matters have been so well managed that really there has been little or no unpleasantness. He has worn generally a pad—a piece of sponge covered with oil silk,—or a large bone nipple shield immediately over the false anus, covered with a small square of spongio-piline, slightly wetted with carbolic acid lotion, the whole being kept in place by a stout belt. The bowels have generally emptied themselves once a day, and the rest of the time there has been no inconvenience. He has suffered a good deal from tenesmus, and discharges of blood-stained mucus from the rectum; but I control this, and the pains which at times are severe all over the pelvic region, with suppositories of opium. He is now using about four grains a day. He is getting slowly weaker, but his life is very tolerable."

Our patient lived till the 12th of August, having survived the operation seventeen months. Mr. Thompson writes thus:—

"He had been gradually sinking for some months, and the end was caused by the sudden loss of a considerable quantity of blood from the rectum. He suffered very much latterly from attacks of violent neuralgic pains, with spasms of the muscles of both thighs, and occasionally had attacks of convulsive spasms of the muscles of the arms and neck. To relieve these, I was accustomed to give morphia subcutaneously, and at last the large dose of three grains and a half was thus administered twice daily without producing narcotism. Besides this, the rectum was so irritable that he had four grains of opium introduced in suppositories twice daily, and was most uncomfortable if they were omitted."

Mr. Thompson examined the body, and noticed how little it was emaciated. He found the shrunken colon healthy for about four inches below the false anus. He could not get the tip of his fingers below the sigmoid flexure. A mass of hard cancer blocked it completely, and seemed to have obliterated the several structures. It invaded the posterior wall of the pelvis, sacral plexus, etc., accounting for the pains the patient had suffered. The other viscera appeared healthy, but the examination was hurried. A large tumor had formed at the right elbow, which seemed to be a deposit of soft cancer in the upper part of the radius, distending the bone.

This case is deserving of record, as showing the great advantage of colotomy in cancer of the rectum. The patient was not only rescued from impending death from obstruction, and survived the operation seventeen months, but, as Mr. Thompson's reports show, he lived in tolerable comfort for twelve months, when the advance of the disease gave rise to considerable suffering, which required unusually large doses of morphia for its relief. It was fortunate for the patient that colotomy was required at a comparatively early period of the disease; for it is only when the operation is performed early that we can hope to retard the progress of cancer, and to prevent the frequent painful defecation which is generally so distressing in these cases.

In a recent discussion at the Clinical Society, Mr. Erichsen is reported to have said "that the great relief afforded by colotomy in cancer had been demonstrated in Paris as elsewhere." The credit of having first suggested the operation to retard the progress of scirrhus disease of the rectum and large intestine, and to prolong life, is justly due to Amussat; but his memoirs on the operation, which I presume include all the cases in which he had performed it, contain no case in which it was done without the existence of obstruction—merely to relieve the sufferings of cancer; and what is remarkable, the French surgeons do not seem to have appreciated the advantages of the operation for this purpose. I know of no published case in which colotomy has been performed in Paris except to relieve obstruction.—*Lancet*.

Case of Thrombosis of Left Popliteal Artery; Followed by Dry Gangrene of Foot and Leg; Amputation of Thigh; Recovery:
By ROBERT BATHO, M. R. C. S. Eng., etc., Assistant-Surgeon,
Cape Mounted Riflemen.

PRIVATE E. J.—, C.M.R., aged twenty-seven, was forwarded to Fort Beaufort, Cape of Good Hope, on Jan. 20th, 1868, from an outpost, and placed under my medical care. He was a pale, slim man, of general good character, and temperate habits. The medical history sheet showed several admissions to hospital for syphilis, but no record of serious or acute disease.

On admission he was very weak and feverish, and complained of pain in the abdomen. Ordered a diet of beef-tea and rice pudding; four ounces of port wine; turpentine stupes to the abdomen night and morning; citrate of iron and quinine, three grains, three times daily.

Jan. 25th.—Free from pain, but very weak; pulse 70, feeble; tongue clean; bowels regular. Repeat treatment.

26th.—Patient was very delirious last night, and got repeatedly out of bed; disturbed the other patients by talking; fell asleep about 5.20 A. M., and slept for an hour. Is quite conscious this morning, and answers questions coherently; tongue clean; bowels regular; is free from pain; pulmonary and cardiac sounds normal; pulse 70, weak, and occasionally intermittent; he is very tremulous. Ordered a draught of sesquicarbonate of ammonia and compound tincture of cinchona every four hours, and a sedative at bedtime.

27th.—Same report. Allowed meat diet, with a bottle of porter.

28th.—Stronger; free from delirium.

31st.—Was again delirious last night. This morning he complains of a feeling of intense coldness in left foot and leg. On examination, both legs are found very cold, and the entire circulation is low and feeble. Pulse 70, weak; heart's action very weak, sounds normal; respiratory sounds normal. Continue ammonia and bark; wrap legs and feet in flannel bandages, and apply foot-warmer constantly. Repeat morphia at bedtime.

Feb. 1st.—Right foot and leg warmer; left foot and left leg to the knee continue as cold as a stone, and have now a blue mottled appearance, in spite of the constant application of bandages and hot bottles. Common and superficial femoral arteries can be felt pulsating on the left side, but I am unable to detect any pulsation in the anterior or posterior tibial of that side. It would appear as if thrombosis of those vessels had occurred.

2d.—Leg still in the same condition. Patient appears to have lost all power over his toes and ankle, and the leg is in a condition bordering on dry gangrene. To increase the dose of sesquicarbonate of ammonia to eight grains every three hours; gin, and four ounces of port wine daily, in addition to the porter.

4th.—Toes becoming black and horny.

5th.—General health good. Increase dose of ammonia to ten grains.

6th.—Toes and sole of foot very black and dry; surface of leg to the middle of calf of a dusky "bruise" color; temperature as far as ankle low. A few hard cords and knots can be felt in the calf, probably inflamed lymphatics; very tender to the touch.

8th.—Duskiness extending. Patient is much emaciated, but his general health is much improved.

12th.—Bullæ forming over lower portion of leg; no sign of line of demarcation; blue color extends now quite to the knee joint, which is very tender to the touch.

19th.—Little or no change. Takes thirty minims of tincture of opium every night, instead of the morphine.

24th.—Leg smells horribly offensive. Deodorant used.

28th.—Same report. Iodine in chip-boxes, creosote, chloride of lime and of zinc, powdered coffee, charcoal in dishes and bags, permanganate of potash, etc., used to overcome the effluvium. Pulse 80, very intermittent.

29th.—Line of demarcation has formed in upper third of calf.

March 3d.—The gangrene has not overstepped the line of demarcation. Pulsation in left femorals very feeble if at all perceptible. Dead parts are separating.

6th.—Separation progressing; profuse grumous discharge is taking place from the back of the calf.

10th.—Separation advancing; discharge is very profuse; pulse feeble and intermittent.

12th.—Patient seen by Dr. Tarrant, surgeon C.M.R., in consultation. Dead parts have to a great extent separated, especially in the calf of the leg; but it is evident that, should the entire limb come away, the resulting stump would be useless, and that a secondary amputation would be required. His general health being good, and his pulse having improved, it was resolved that amputation through the lower third of the thigh should be performed.

13th.—The man having been placed under the influence of chloroform by Assistant-surgeon C. F. Churchill, M. B., I performed the modified circular operation recommended by Professor Syme—viz., by making anterior and posterior flaps of integument, and dividing the muscles circularly; cutting the anterior short and the posterior as long as possible. Scarcely any loss of blood occurred, and only two vessels required ligature—namely, the popliteal, which was partially occluded by thrombosis, and one of the perforating arteries. About six wire sutures were inserted, and the stump was lightly dressed with soft linen rags.

I have to record my grateful thanks to Dr. Tarrant for valuable advice and assistance before and during the operation. In the subsequent dressings, the first of which was applied on the 16th, a solution of permanganate of potash was used to moisten the strips of linen, and pans of charcoal were kept

around the stump under the cradle. No complication of any kind occurred. The wound healed readily by granulation, without any reappearance of gangrene, and the patient was able to leave his bed twenty-eight days after the amputation. I may add that he has since returned to England, and has received a shilling a day as a pension for life.

The preceding case is interesting from its obscure causation, its occurrence in so young a subject, and, lastly, its favorable termination.

With regard to etiology, there was nothing in the man's previous history to indicate that his constitution was undermined. He had, it is true, suffered from repeated attacks of syphilis, but, with this exception, he seems to have enjoyed good health during a service of eight years. No cardiac disease could be detected, the intermittent pulse appearing to depend upon functional derangement, and varying in severity at different hours of the day. It was obviously connected with the condition of the stomach, as regards fulness or the contrary, being more frequent whilst digestion was preceeding. The man's symptoms, on first admission to hospital, differed in no perceptible respect from those of common continued fever, and his disease was in consequence returned as such. Thrombosis was diagnosed on Feb. 1st, and the consequent progress of the case verified this opinion.

On what did this condition of the vessels depend? Two possibilities suggest themselves in answer. First, that an embolic clot had been detached from one of the valves of the heart, had been projected into the circulation, and had become arrested in the popliteal artery. The occurrence of delirium on the 31st January might be explained in this way; but no evidence of embolism existed at that time. The second and more probable supposition is, that a local stasis of the blood had occurred in the vessels of the leg, dependent in part on a most feeble heart-action, and partly on an abnormal condition of the blood itself. Both lower extremities were for a time in a state analogous to that of frost-bite, but, from some cause which is not apparent, the balance of circulatory power was restored in the right limb, whilst coagulation of the blood occurred in the vessels. There were no symptoms to indicate any disease of the arteries themselves. In its further progress the case presented some of the characteristics of frost-bite; as, for instance, the nodulated condition of the lymphatics of the calf. That such a train of symptoms should have occurred in a semi-tropical climate, and in a very hot season, is remarkable. It is obvious that exposure to cold could have had no part in their causation.

With regard to treatment, the large doses of ammonia were administered with the view of promoting the fluidity of the blood, and at the same time acting as a stimulus, which the condition of the pulse seemed to demand. The drug was well borne, and was apparently productive of benefit. No attempt was made to induce the patient to partake of more than his usual amount of

nourishment, but, the man's appetite being excellent, his tongue clean, and his alvine functions normal, a liberal dietary was sanctioned.

Was the operation needed? and was the recovery in spite of it, or in consequence? Notwithstanding the caution contained in Holmes's Surgery, I was from an early date of opinion that amputation was justifiable, for the following reasons:—1. That, without it, the patient would probably die of septicemia before the gangrene had completely separated. The weather was intensely hot, and the effluvia from the limb, under the free use of deodorants and disinfectants, were most offensive. The patient was the sole occupant of a large well-ventilated ward, yet the orderly who attended him sickened and died in a few days from typhus fever, in spite of immediate removal to a distant ward and the most careful nursing; his ileum being found after death studded throughout with ulcerous patches. 2. The patient was most anxious to have the limb removed, and was sanguine of the result. 3. It seemed probable that the profuse grumous discharge from the calf might at any moment become hemorrhagic, in which event it would have been hopeless to attempt to find and secure the bleeding vessel; the tourniquet would have been inadmissible, and amputation would have become the *dernier resort* under the most unfavorable circumstances. 4. The occlusion of the vessel appeared rather in his favor than otherwise: the temperature of the thigh being normal, was an evidence that collateral circulation was already established. At the worst, this symptom alone did not negative an operation, the patient being in a more favorable condition for the knife than if a ligature had been applied to the external iliac for aneurism, and gangrene had supervened. A case of this kind, which occurred under my own observation whilst acting as house-surgeon to the Dorset County Hospital, recurred to my recollection. A sailor suffering from aneurism in Scarpa's triangle was operated on by Mr. G. Curme, surgeon to the hospital, who tied the external iliac artery. Gangrene of foot and leg supervened. Mr. Curme amputated the thigh through the aneurismal sac, and recovery followed. 5. The dead parts having separated at a higher level posteriorly than anteriorly, the bones would have remained without sufficient covering, and a secondary operation would then have been demanded.

On the other hand were ranged—1. The recorded experience of a large number of surgeons against such operation. 2. The feeble state of the patient's circulation, which might render the use of chloroform dangerous. 3. The occlusion of the vessels, and consequent scanty supply of blood to the stump. 4. The possibility of separation taking place without an operation.

In conclusion, I may remark that my patient's health is now completely restored; his pulse is quite regular and free from intermissions. He has, moreover, become quite fat. His hopeful disposition was, I am persuaded, a great element of success.

—*Lancet*.

Ulceration of the Palate in Young Patients.

IN November last, a stout healthy-looking girl, eleven years of age, was under treatment in the surgical wards of the London Hospital, for ulceration at the back of the mouth, which resulted in destruction of the uvula and the adjacent soft parts. There was also an oval perforation in the soft palate. Mr. Hutchinson stated to his class that as ulceration and destruction of the soft palate in an adult generally indicates tertiary syphilis, so does the existence of a similar disease in a young subject at once suggest the idea of hereditary syphilitic taint. But it has been observed that destruction of the palate at an early age is very rarely if ever associated with the signs of inherited syphilis. In the present patient the teeth were not deformed, there was no keratitis, and periosteal thickenings could not be detected. If, as we have good reasons for believing, early ulceration be due to hereditary syphilis, then this lesion characterizes a group of cases quite distinct from that in which the ordinary symptoms of inherited disease, such as pegged teeth and keratitis, are presented. The most effective treatment of sloughing of the soft palate in young patients is the local application of nitric acid or the acid nitrate of mercury.—*Lancet*.

Pyæmia.

THE most recent theory has been promulgated by M. Alph Guérin, at the Academy of Medicine of Paris. Hitherto pyæmia had been considered as the result of an absorption of decomposing secretions, or of phlebitis. M. Guérin disputes this mode of development, and proposes a theory founded upon analogy and clinical observation. He thinks pyæmia is a kind of typhus, a surgical typhus, excited by miasmatic emanations. Ague, says the author, is engendered by marsh miasmata, purulent infection by animal miasmata. M. Guérin, it will be seen, is inclined to shake the fetters of mechanical theories, which hitherto have reigned supreme as regards pyæmia.—*Lancet*.

On Forced Flexion of the Limbs in Traumatic Hæmorrhage.

DR. ADELMANN, of Dorpat, quoted by *L'Imparziale*, of Florence, strongly advocates this practice, which he considers has, unfortunately, fallen into oblivion. He quoted numerous authorities in support, such as Nélaton, Ansiaux, Formey, Malgaigne, Klotz, Hyrtl, Vidal de Cassis, and cites a case of his own where forced flexion of the hand on the forearm and the latter on the arm arrested hæmorrhage from a wound of the ulner artery. Dr. Adelmann thinks that such flexion should be had recourse to before other hæmostatic means are employed; that this practice should be made known among the people at large, so that it might be used before the arrival of the surgeon; and that soldiers in the field should be made acquainted with it.—*Lancet*.

Penetrating Wound Involving the Female Genito-Urinary Organs :

By W. G. FROST, M. D., Freeport, Me.

MRS. G. M. L., a large, robust woman, æt. 38, weighing 190 lbs, while attempting to climb up a hay-mow, slipped and fell astride a stake of hard wood an inch and a quarter in diameter. The stake first encountered the inner part of the right thigh, roughly abrading the skin, and, passing on, it stuck three-fourths of an inch to the right of the vulva, and, carrying the parts before it, entered the vagina, which it followed about four inches; then, taking a forward direction, it ruptured the bladder, entered the anterior cul de sac, pushing the parts before it, having entered the body ten and one half inches. I found her suffering extreme pain and losing considerable blood, there being no collapse nor chills. The diagnosis at the time was rendered difficult by the great amount of adipose tissue of the parts, and the menses being present the actual hæmorrhage was with difficulty ascertained. But the stake bore evidence of the depth of the wound, and the urine draining from the vagina indicated its nature. As I could not discover protrusion of the bowels, I judged that the abdominal cavity was intact.

I gave her one fourth grain doses of morphia often enough to allay the pain, quiet nervous irritation and produce sleep. Then

R. Ant. et potass. tart., gr. i.;
 Magnes sulph., ℥i;
 Aque, ℥iv. M.

A dessertspoonful every two hours to anticipate the inflammatory fever. I hesitated somewhat in applying cold applications, the menses being present, but finding the next day that the symptoms were indicating a considerable loss of blood, I applied them freely, and gave internally gallic acid and opium; after which the hæmorrhage ceased entirely. No inflammatory fever followed, and suppuration was established in three or four days. About this time I found the bladder about half filled with blood-clots and pus, which I evacuated by injecting warm water into the bladder through the urethra and allowing it to run out by the vagina. This operation was repeated for a number of days. The bowels were freed every other day by enemata of castor oil. A gum-elastic catheter was kept in the bladder, and the patient put on a light diet. Under this treatment she steadily improved for a fortnight, when the left leg began suddenly to swell, involving the whole limb from hip to toes, but this readily subsided under hot acidulated fomentations. The case after this went on favorably, and in seven weeks she left her bed and walked to the dining-room. The rupture of the bladder left a vesico-vaginal fistula one-fourth of an inch in diameter, readily relieved by a surgical operation. The patient at this time, eighteen months after the injury, is enjoying her accustomed health.—*Boston Med. and Surg. Journal.*

July 12, 1869.

The Mechanism of Dislocation and Fracture of the Hip, with the Reduction of the Dislocations by the Flexion Method: By H. J. BIGELOW, M. D., Professor of Surgery and Clinical Surgery at the Medical School of the Harvard University, Surgeon to the Massachusetts General Hospital, etc., etc.

EVERY reader of this journal is familiar with the name of Dr. Bigelow, many of whose cases we have recorded from time to time. A book on a practical surgical subject from the learned and skilful professor of surgery and clinical surgery at Harvard University, is sure to receive attention from the Profession in this country. We shall, therefore, indicate only the nature of the work before us, availing ourselves of the author's own systematic abstract for that purpose. Dr. Bigelow considers great importance should be attached to the ileo-femoral ligament which he proposes to name from its shape, the Y ligament. He considers the Y ligament exercises great influence in dislocations. The origin of the book before us was a paper to tract this influence. Its extent will be seen in the following abstract with which it commences:—

“1st. The anterior part of the capsule of the hip-joint is a triangular ligament of great strength, which, when well developed, exhibits an internal and external fasciculus, diverging like the branches of the inverted letter Y. It rises from the anterior inferior spinous process of the ilium, and is inserted into nearly the entire length of the anterior intertrochanteric line.

“2d. The Y ligament, the internal obturator muscle, and the capsule subjacent to it, are alone required to explain the usual phenomena of the regular luxations.

“3d. The regular dislocations are those in which one or both branches of the Y ligament are unbroken; and their signs are constant.

“4th. The irregular dislocations are those in which the Y ligament is wholly ruptured; and they offer no constant signs.

“5th. In the regular dislocations of the hip, the muscles are not essential to give position to the limb, nor desirable as aids in its reduction.

“6th. The Y ligament will alone effect reduction and explain its phenomena, a part of those connected with the dorsal dislocations excepted.

“7th. During the process of reduction, this ligament should be kept constantly in mind.

“8th. The rest of the capsule, except perhaps that portion beneath the internal obturator tendon, need not be considered in reduction, if the capsular orifice is large enough to admit the head of the femur easily.

“9th. If the capsular orifice is too small to allow easy reduction, it should be enlarged.

“10th. The capsular orifice may be enlarged at will, and with impunity, by circumduction of the flexed thigh.

"11th. Recent dislocations can be best reduced by manipulation.

"12th. The basis of this manipulation is flexion of the thigh.

"13th. This manipulation is efficient, because it relaxes the Y ligament, or because that ligament, when it remains tense, is a fixed point, around which the head of the femur revolves near the socket.

"14th. The further manipulation of the flexed thigh may be either by traction or rotation.

"15th. The dorsal dislocation owes its inversion to the external branch of the Y ligament.

"16th. The so called ischiatic dislocation owes nothing whatever of its character, or its difficulty of reduction by horizontal extension, to the ischiatic notch.

"17th. 'The ischiatic dislocation' is better named '*dorsal below the tendon*,' and is easily reduced by manipulation.

"18th. The flexion of the thyroid and downward dislocations is due to the Y ligament, which, in the first, also averts the limb, until the trochanter rests upon the pelvis.

"19th. In the pubic dislocation, the range of the bone upon the pubes is limited by this ligament, which, in the subspinous dislocation also, binds the neck of the femur to the pelvis.

"20th. In the dorsal dislocation with eversion, the outer branch of the Y ligament is ruptured.

"21st. In the anterior oblique luxation, the head of the bone is hooked over the entire Y ligament, the limb being then necessarily oblique, everted, and a little flexed.

"22d. In the supra-spinous luxation, the head of the femur is equally hooked over the Y ligament, the external branch of which is broken. The limb may then remain extended.

"23d. In old luxations, the period during which reduction is possible is determined by the extent of the obliteration of the socket, the strength of the neck of the femur, and the absence of osseous excrescence.

"24th. Old luxations may possibly require the use of pulleys in order by traction to avoid any danger which might result to the atrophied or degenerated neck of the bones from rotation.

"25th. Right-angled extension, the femur being flexed at a right angle with the pelvis, is more advantageous than that which has usually been employed.

"26th. To make such tension most effective, a special apparatus is required."

Having gone into each of these points at full length, the author adds to his work which we hope will be extensively read by our brethren at home as well as in America, his views on fracture of the neck of the femur. As to this too we can scarcely do better than take his own words to convey to our readers his teaching.

The following is Dr. Bigelow's abstract of this part of his work:—

"1st. The terms intra and extra-capsular, applied to these fractures, have little practical significance.

"2d. When a fracture near the head of the femur shows bony union, it is often impossible to say whether such a fracture was originally inside or outside of the capsular ligament.

"3d. These fractures are therefore better divided, for practical purposes, into 1st, the impacted fracture of the neck into the trochanter; 2d, other fractures of the neck.

"4th. In this impacted fracture, the limb is everted, because the posterior cervical wall is almost always impacted, the anterior very rarely, and in a less degree.

"5th. These conditions mainly result from the relative thickness of the two walls.

"6th. While eversion is due to the rotation of the fractured bone on a hinge formed in the anterior cervical wall, shortening is generally due to the obliquity of this hinge.

"7th. In a well-formed bone, the posterior and thin surface of the neck of the femur, is prolonged into the cancellous structure beneath the intertrochanteric ridge, and is the true neck.

"8th. The posterior intertrochanteric ridge is a buttress built upon the true neck, by which, when impacted, this ridge is sometimes split off."

Our readers will now possess a clear estimate of the contents of Professor Bigelow's work. We have only to add that the illustrations are very clear and instructive.—*Medical Press and Circular*.

On Amputation at the Knee-Joint: By GEORGE D. POLLOCK, F. R. C.S. Read before the Royal Medical and Surgical Society, Tuesday, December 11th, 1869.

THE author commenced by drawing attention to the circumstance that amputation at the knee-joint had not been very favorably entertained until within the last thirty years, and that only very lately had it been much advocated. Having himself performed the operation in several cases with satisfactory results, he desired to bring his experience before the Society. After referring to the practice of Mr. Syme and of Mr. Samuel Lane, the author proceeded to say that, in the consideration of amputation through the joint, two considerations must be borne in mind; first, if there were disease of the joint and ulceration of the cartilages after the leg was taken off, the articular surface of the condyles and patella should be removed; secondly, if no disease of the joint existed, but amputation were requisite on some other account, then the articular cartilage should be left intact. The author related the particulars and results of eight cases in his own practice, and quoted communications received from other English surgeons. From various sources he had been able to collect forty-eight cases operated upon in England. These showed a gross result of thirty-six recoveries, and twelve deaths.

A collection of American cases showed thirty-two recoveries and thirteen deaths,—thus giving a total mortality of 26.88 per cent. After some further account of American experience in the matter, the author described the improvement suggested by Mr. Carden, of Worcester, of making the flap of skin from the front of the leg. He himself approved of the suggestion. The anterior flap should be long enough and broad enough to cover the whole of the exposed end of the femur. It should be so broad at its base as to be at least two-thirds of the circumference of the joint, the posterior flap at its base forming the other thirds. The author laid stress upon the anterior flap being of sufficient length (at least five inches below the lowest point of the patella), and was inclined to leave the patella in the flap when the joint was healthy. When it was diseased, he recommended the removal of the articular surface alone. The comparison between the stump usually obtained after amputation through the thigh, and that obtained after amputation through the knee-joint, was very much in favor of the latter, which was never conical nor retracted, and was superior in strength and fitness for locomotion, in comfort and freedom from pain, and in capability to bear weight and endure exertion. It was also more easy to adapt a good serviceable artificial leg to such a stump. In conclusion, the author thought that the facts which he had brought forward, although not enough to lead to positive conclusions, were enough to commend the operation to favorable consideration.

Mr. Holthouse had performed amputation at the knee-joint in 1856, on a brewer's drayman who had a bad compound fracture of the leg. The constitutional symptoms denoted that the man could not recover without an operation; and the limb was removed at the knee-joint by a long anterior flap. A good stump was formed; but the man died soon afterwards. He would probably, being an unhealthy subject, have died under any circumstances. He had not since had an opportunity of performing the operation, but thought it preferable to amputation at the lower part of the thigh. The cartilage and the patella should be left.—Mr. R. B. Carter said that Mr. Fearn of Derby had for several years performed the operation with good results. He (Mr. Carter) had done it in three or four cases of bad compound fracture in patients in the country. The wounds healed quickly; and the patients had useful limbs sooner than after amputation through the thigh. He made an anterior flap, leaving the patella. He thought that the flap recommended by Mr. Pollock was too long.—Mr. J. R. Lane said that the results of the operation showed it to be less dangerous than amputation through the thigh; and it had the advantage, that the stump could rest directly on the artificial leg, without the necessity of taking the pelvis as the point of support. The long anterior flap was necessary to the success of the operation. The cartilages of the femur and patella should not be removed. He hoped that the reading of the paper

would lead to the establishment of amputation through the elbow and wrist joints. He had amputated through the elbow several times, with good results. Suppuration sometimes followed amputation at the knee; it apparently originated in the pouch of synovial membrane above the patella, but was ultimately followed by no bad result. It was not essential that the flap should adhere to the surface of the bone, as Velpeau supposed. The patella in the stump was drawn up above the condyles, and the patient did not rest on it.—Mr. Holmes pointed out, as advantages of the operation, the greater length and leverage of the limb, and the preservation of the attachment of the extensor muscle of the leg. These points were insisted on by Gritti, who, in cases of disease of the knee, divided the femur a little above the condyles, cut through the patella perpendicularly, and adapted the cut surfaces of the patella and femur to each other, to obtain osseous ankylosis. He (Mr. Holmes) had once operated in this way; but a sufficient time had not elapsed to enable him to judge of the result. He had examined the stump in a child who died some months after amputation of the knee, and had found the parts moveable on each other, the cartilages of the femur and patella being quite smooth.—Mr. Barwell asked in how many cases it was necessary to make incisions to allow the escape of matter. He thought the preservation of the attachment of the adductor magnus of great importance.—Mr. Birkett would have performed the operation many times, if he had not been assured by mechanicians that the stumps could not be dealt with. Among his cases, in one there had been a remarkably sudden loss of blood, and sloughing, in the flap; the patient died of pyæmia. Another case—a child—did well. In another, the result was less satisfactory than could be wished, probably from the posterior flap having been made too small, so that, a part of the anterior flap having sloughed, the wound healed only by a tedious process of cicatrisation. He thought that a modification of the ordinary semicircular incision was the best.—Mr. Cooper Forster had amputated through the knee-joint twice; but he thought that the head of the tibia should be preserved, if this were practicable. He had made the old circular incision, and was well satisfied with the stump. In one case, the patient recovered; in the other, death occurred from pyæmia.—Mr. Thomas Smith had performed the operation in four cases. In one—that of a man aged 55, with a malignant tumor—the patient died; the other three recovered with excellent stumps. As to the instrument-makers, they had so long been in the habit of fitting bad stumps, that they found it difficult to deal with good ones. The wound was almost entirely integument; there were only two heads of muscle (the gastrocnemii) divided, and three arteries—the two sural and the popliteal. He thought that the patients suffered less from shock than after amputation through the thigh.—Mr. Callender was not prepared to admit that amputation at the knee was less fatal than through the thigh; but he would prefer

it as being at a greater distance from the trunk. In a case under his notice, matter had burrowed along the tracks of the tendons, this, however, was easily overcome.—Mr. Pollock believed that suppuration originated in the hollow space left when the patella was removed; but he could say nothing of its burrowing along the tendons. He had heard from Dr. W. MacCormac, of Belfast, that he had twice performed the operation. He (Mr. Pollock) had, since the paper was written, operated successfully on a case of myeloid disease of the head of the tibia. As to the length of the flap, it was a matter of opinion; but he had seen the inconvenience of making it too short, and found five inches not too much. The long anterior flap was better than the circular, because the cicatrix could be drawn beyond the line of pressure.—A model of the stump, with its artificial limb, was exhibited by Mr. Pollock.—*British Medical Journal*.

Perineal Lithotrity: Professor Dolbeau's Operation.

ON November 13th, I saw Professor Dolbeau perform an operation peculiarly his own, which he calls "*lithotrité perineale*." The subject was a young man. The stone was of considerable size. The membranous part of the urethra having been cut into, the stone was forthwith crushed and removed. The operation was performed when the patient was in a state of complete anaesthesia from chloroform, and occupied about forty minutes from first to last. I need hardly say that there is nothing very brilliant to the eye of the spectator in an operation of this kind; it does not dazzle the students like lithotomy completed in a minute by a Liston or a Fergusson. But, when I stated that the case now referred to was Professor Dolbeau's twenty-first successful case of perineal lithotrity, it is evident that the operation has more substantial merits than brilliancy to recommend it. Not only have the cases been successful, but the recoveries have been rapid and without fistula. A few days after the case referred to was operated on, Professor Dolbeau performed the same operation upon an old man, who has since died—not, however, from the operation. This is the only case in which death has afforded an opportunity of making an anatomical examination of the parts operated on. The following notes of the case are, therefore, of considerable importance. I may remark that I had an opportunity of minutely inspecting the parts, and having them demonstrated to me by the Professor, who likewise showed them last week at a meeting of the Société de Chirurgie.

In the case of the deceased old man, the stone was large, but not larger than in some of the other cases. Complete anaesthesia by chloroform was induced. That being accomplished, the patient was held in the lithotomy position by two assistants. The operator began by making an incision of two *centimètres* in length, through the skin of the perinæum, in the median line. The incision was carried back as far as the mucous coat of the

anus. He then divided the tissues of the perinæum, cutting as far as the muscular fibres of the sphincter, so as to bring them into view without injuring them. In front, he pushed the bulb of the urethra quite out of the way of the knife. With the index finger of the left hand, which served him as a director during this part of the operation, the operator could now feel, through the membranous portion of the urethra, the grooves of a catheter previously introduced through the penis into the bladder. Guided by his finger in the wound, he now made a slit in the membranous portion of the urethra with the bistoury. By this slit he introduced a dilator of a special construction. This instrument is formed of six branches, which branches, by means of a very simple mechanism, can be separated so as to be parallel to one another; its diameter when closed is ten *millimètres*, and twenty *millimètres* when open. By using this instrument gently, dilating and shutting it alternately, the operator reached the prostatic portion of the urethra. He then withdrew the catheter. Continuing the process of dilatation in the same manner in which he began it, he was enabled to dilate the neck of the bladder, and to get free access into the cavity. In this way there was formed a straight passage, nearly two *centimètres* in diameter, leading from the bladder to the perinæum, situated between the bulb of the urethra in front and the rectum behind. Neither the bulb nor the rectum was implicated in the incision, but both were displaced and squeezed up. Through this straight passage, powerful forceps were introduced, by which the stone was crushed. By means of smaller forceps, the fragments were laid hold of, and extracted.

Several times during the operation, Professor Dolbeau injected water into the bladder; this water was retained, which showed that the sphincter of the bladder had not lost its contractile power. There was no hæmorrhage during the operation, and no dressing of the parts was required after the operation.

After going on well for some days, the patient died, after an attempt to hang or strangle himself. From the first, he showed a desire not to recover. Death cannot, I think, in this case, be directly ascribed to the operation.

The results of a very carefully performed autopsy may be thus briefly summed up. The bladder was quite healthy. No tear and no trace of inflammation could be detected. The neck of the bladder, which was shut, was in no degree torn. The bulb was in a perfectly healthy state, and was not involved in the incisions. The thickness of the tissues remaining between the operative passage and the bulb was more than a *millimètre*.
—*British Medical Journal*.

Ovariectomy, with Removal of the Entire Uterus—Statistics of the Lyons Hospital for 1868.

At the meeting of the Académie de Médecine December 7, M. Péan presented a patient who excited great interest on account of the nature of the operation she had undergone. Indeed, M. Péan, one of Nélaton's most distinguished pupils, has already established a high reputation as a famous operator. First coming forward to establish, what had long been denied the possibility of performing ovariectomy with success in Paris, he next introduced a patient to the Academy whose spleen he had removed, and now exhibits another, not only as an example of success in a complicated case of ovariectomy, but of the far more remarkable fact of having undergone the removal of the entire uterus and its appendages. The case was, indeed, a complicated one, for there was a very large cyst of the left ovary, the uterus was greatly hypertrophied, mounting up above the umbilicus and containing a cyst, while a fibrous tumor occupied the right ovary, and a cyst the right tube. The existence of a moveable fibrous tumor, independent of the cyst and of hypertrophy of the uterus, was recognized prior to the operation; but in what proportions these lesions existed could not be ascertained by reason of the adhesions which united the various tumors to each other. Having exposed the ovarian cyst by a long incision, M. Péan commenced, as is his custom, its removal piecemeal (*morcelant*), employing his long cauterizing irons heated to whiteness. Having in this way removed a notable portion of the cyst, he came upon the uterus, enormous in size, soft, fluctuating and adherent on every side. The adhesions were very vascular, and any rupture of these gave rise to hæmorrhage, which had to be arrested by heated irons. The only thing that seemed feasible was the removal of the diseased uterus at the same time with the other tumors. M. Péan would not cut through the cervix, as this was excessively hypertrophied, equaling a fist in size, but carried his incision through the vagina. He next passed a double thread by the abdominal wound through the vagina from before backwards, by means of which he practised two ligatures. That on the left side comprised the great ovarian cyst, and the other embraced all the portion of the vagina corresponding to the uterus, together with the right ovary and tube. An incision was made just above the ligatures, and the parts comprised were removed by a considerable amount of traction, the double pedicle thus formed being brought in contact with the abdominal parietes. This portion of the wound was not united, three caoutchouc tubes being inserted. The adhesions were too intimate to allow of the separation of the fundus of the cyst from the wall of the lesser pelvis. It was left *in situ*, but was spontaneously discharged on the thirtieth day, by which time solid adhesions had closed up the vaginal incision, without leaving any perforation where the ligatures had been. The recovery was complete, and when the patient was presented the operation had been performed three months.—*Medical Times and Gazette.*

Death from Chloroform.

ON Wednesday last, December 29, at the Middlesex Hospital, a young man died on the operating table from the effects of chloroform. He was twenty-six years old, a gardener, and in good health, save for an abscess on the outer side of the hip, which had existed some months in connection with diseased bone, the result apparently of a kick received seven years previously. A month ago the abscess had been opened in the same Hospital, in order to reach the diseased bone, and on that occasion the patient had suffered a good deal from subsequent sickness, but had taken chloroform without any untoward symptom. Mr. De Morgan intended on the present occasion to explore the still discharging sinus, and probably insert a drainage-tube. Chloroform was administered by Dr. Osman Vincent, the chloroformist to the hospital, on folded lint, and all went smoothly until about five minutes after the commencement of the operation, when the man suddenly ceased to breathe. The operation was at once suspended, the tongue drawn forward, and artificial respiration commenced after Sylvester's method, whilst a galvanic battery, which is always kept in readiness in the theatre, was brought out. The artificial respiration was continued for more than half an hour, and the poles of the battery applied to various places, as over the heart, at the heart and neck, and over the diaphragm on either side. The right jugular vein was also opened, and fluid black blood flowed freely, but all efforts failed to restore any vital movements after the first cessation of breathing. When artificial respiration was commenced, the left pupil was observed to be twice the size of the right. After a time they became equal, but the heart never beat, nor was there any spasmodic efforts at respiration. The man was married, and leaves a wife and two young children. It is many years since a similar accident has happened in this hospital. Chloroform is usually administered here with Clover's apparatus. Only a drachm had been given on this occasion when the man died. At the autopsy made next day, twenty-four hours after death, besides general congestion of the viscera, the heart was found to be the seat of somewhat recent endocarditis, shown by roughening of the mitral and aortic valves and thickening of the chordæ tendinæ. The substance of the wall of the left ventricle was also found to be extensively diseased, the striæ being hardly visible in some parts through the large amount of glandular degeneration. The rigor mortis was very slight.—*Medical Times and Gazette.*

Clinical Lecture on Periostitis, etc : By MR. PAGET.

THE following is an abstract of a clinical lecture given by Mr. Paget on Wednesday morning.

The principal subject of this morning's lecture was *Periostitis*, and especially the rare form of it in which the disease goes on

to necrosis, without the implication of any tissues external to the bone, without the formation of pus, and consequently without sinuses. The sequestrum in such cases is found in a cavity whose walls are formed of soft granulations bounded by the immensely thickened periosteum, all the superficial structures being quite healthy. The results are an enlargement of the bone, generally involving the *whole circumference of the shaft*; constant pain, which is often worse at night; and tenderness on pressure.

We have to distinguish such a case from, 1st, *cancer*, in which, however, the increase in size is usually much more rapid than in these cases of marked necrosis, while the pain is neither so constant, nor is it liable to special nocturnal exacerbation; while, lastly, the tumor in cancerous disease does not uniformly surround the shaft of the bone. 2d. In certain low, somewhat flat, bony, or cartilaginous *outgrowths* from the surfaces of long bones, especially the femur, the growth occurs from only one part of the circumference of the shaft, and it often becomes complicated by the formation of a bursa over its surface, while it is liable to attacks of periostitis, accompanied by the usual signs of that disease.

The patient whose case illustrated these remarks was a servant girl who had been treated for pain in the knee for some weeks before admission. She presented, on admission, a considerable uniform enlargement of the shaft of the femur, tender and painful. She stated that she had been in the habit of breaking sticks across the thigh—a circumstance which Mr. Paget thought of some interest in the absence of other ascertainable causes of the disease. She was kept under observation for about three months, during which time blisters, complete rest, and gradually increasing doses of iodide of potassium, gave her only partial and temporary relief from pain. There was not much increase in the size of the swelling during this time.

The pain remaining, and there being no positive signs of malignancy, Mr. Paget cut down on the enlarged femur, and removed from the swelling a piece of dead bone about an inch-and-a-half in length. The periosteum was much thickened, and the cavity containing the sequestrum was lined by soft granulation.

Two other cases were alluded to. In one, the humerus enlarged so rapidly as to simulate cancer; but an incision showed cavities containing some inspissated pus and pieces of dead bone; there were no sinuses. The other specimen consists of the femur and tibia of a man whose history is unknown. There is abundance of new bone surrounding a necrosed portion of the shaft in each bone; but there are no sinuses.

In speaking of the treatment of periostitis, Mr. Paget advocated the use of *repeated blisters* especially in the "relapsing periostitis," which often occurs in the neighborhood of united fractures particularly (in old people), or at the seat of former

necrosis. Iodide of potassium influences chiefly periosteal inflammations—not inflammations of the bone-substances; and Mr. Paget thinks that the different forms of periostitis are influenced by the iodide in something like the following order: 1. Syphilis; 2. Chronic Gouty Periostitis; 3. Scrofulous Periostitis; 4. That form associated with Chronic Rheumatic Arthritis, over which iodide of potassium has no power at all.—*British Medical Journal*.

Death of a Lunatic from Fracture of the Ribs.

AN adjourned inquest has been held on the body of a male lunatic who died in the Carmarthen Asylum. At the *post-mortem* examination, the cause of death was found to have been pleurisy set up by fracture of the ribs, eight in number. A policeman, who took the man to the asylum, stated that he was quite cheerful at that time, and could walk well. The attendants, however, stated that the man was irritable, and could not walk without assistance. On the day after admission the assistant-surgeon found some bruises on him. On the fourth day he was sent to the padded room, as he was so violent they could not manage him. The assistant-surgeon suspected, from his manner of breathing, that he had some ribs broken. The fractures of the eight ribs, however, were not really known till four days after the man's death. It was stated that such cases had occurred before without exciting much comment: a man kneeling quietly on another's chest might break several ribs without undue violence, if the latter struggled violently. There was no evidence to show how the injuries were inflicted. The attendants said the man had fallen twice. A verdict was returned according to the medical evidence.—*British Medical Journal*.

Radical Cure for Varicocele.

THERE are two cases of radical cure for varicocele in Mr. Hill's beds at present. The operation performed in all such cases is a very satisfactory one, and appears novel in its design. The veins are separated from the cord, and then three straight needles are passed through the scrotum in front of the cord. Outside of the scrotum, in front, is placed a piece of gum-elastic catheter, and then compression is made on the veins by silk passed beneath the ends of the needles and over the catheter. The cases are doing well.—*Royal Free Hospital*.

PRACTICAL MEDICINE DIGEST.

Collated by S. M. BEEMIS, M. D., Prof. of Practice of Medicine, etc., University of La.

Chief Causes of Hoarseness and Aphonia, with Hints on Treatment.

By GEORGE JOHNSON, M. D., F. R. C. P., Professor of Medicine in King's College; Physician to King's College Hospital.

THERE are cases of purely nervous or functional, or, as they are sometimes called hysterical aphonia. The voice may be reduced to a whisper, and even that is sometimes inaudible. On looking into the larynx, we see no evidence of structural change, but when the patient attempts to vocalize we find that the vocal cords remain motionless, or that they move very little. This nervous aphonia often comes on suddenly, and it often passes away as suddenly as it came. The best treatment for it consists in the application of electricity directly to the larynx by means of Dr. Morell Mackenzie's "laryngeal galvanizer." The shock excites spasm and a scream, and the cure is sometimes very rapid. I have cured several of these cases at a single sitting, and one by a single shock of electricity. A boy about 12 years of age, was frightened and nearly drowned, by falling into a pond. From that time he completely lost his voice, his intellect being unimpaired. When I saw him he had not uttered an audible sound for two years. I saw that his larynx was healthy, and I determined to apply electricity. The first shock elicited a loud scream, and at once he recovered his speech.

In most cases it is necessary to apply to electricity again and again before the cure is complete, and in some cases the treatment is unsuccessful, but these are comparatively rare. When the general health is impaired, treatment should be directed to remedy this while the electricity is being employed.

It is remarkable, but quite intelligible, that when, from any cause—a growth upon one of the vocal cords, or inaction of the muscles—the glottis remains partly open during vocalisation, the air escapes so rapidly during the expiratory act of speaking, that the patient is often compelled to draw in a fresh breath before he comes to the end of a sentence. In consequence of the patulous state of the glottis, there is a rapid escape and waste of air, and the chest is soon emptied.

There is a form of aphonia or weakness of voice which I look upon as the result of muscular fatigue and weakness. I have seen a considerable number of these cases, and most of the patients have been clergymen. The patient begins to speak in a clear and loud voice, and he continues to do so for a variable time; but after speaking or reading aloud for, it may be, a quarter or half an hour, the voice becomes feeble, and it may soon be reduced to a whisper. At the same time there is a feeling of fatigue,

and sometimes positive pain in the throat. With these symptoms we may find, on looking into the larynx, no trace of structural change, or only slight congestion and redness without swelling. A common cause of the form of dysphonia is overwork of the larynx, from frequent preaching and reading in large churches. I have known it to result from over-exercise of the voice in singing, from straining of the voice by the habit of loud talking in the midst of noisy machinery, and from violent efforts in giving the word of command.

In some instances this peculiar form of laryngeal weakness has followed upon an inflammatory attack. It seems probable that inflammation may sometimes extend from the mucous membrane to the muscular structures beneath, and thus the nutrition and the tone of the muscles may be impaired. This is the more likely to happen if the larynx be much exercised in speaking or singing during an attack of catarrhal inflammation.

The best treatment for these cases consists in rest for the larynx as the organ of speech, change of air and scene, and a general tonic regimen. The daily application to the larynx of a saturated solution of tannin in glycerine often does good. Tannin lozenges, too, may help to give tone to the feeble voice, and the combination of iron with small doses of strychnia is sometimes useful. I have tried galvanism, but I have hitherto seen no benefit from its use in this class of cases.—*Medical Times and Gazette*.

Internal Use of Carbolic Acid in Some Cutaneous Affections.

CARBOLIC acid has been employed rather extensively in the wards of Professor Hebra, of Vienna, with results of considerable interest, which are reported by Dr. Moritz Kohn. Under it hyperemia of the skin diminishes and finally disappears, a brown discoloration remaining; exudations become absorbed, and the formation of scales ceases. Cases of psoriasis, of pityriasis, and of pityriasis rubra have been rapidly cured by the use of this remedy without any external application whatever.

It is worthy of remark that during the internal administration of the remedy the urine was not found to present the dark color and tarry odor which is observed after the liberal application of carbolic acid to wounds after operation. It affects the kidney a little, when long administered; for example, a little albumen was observed in the urine, and epithelial cells from the tubuli-uriferi and the pelvis of the kidney were noticed. No troublesome urinary symptoms were, however, discovered.

Carbolic acid, seems to possess a powerful effect on diseases accompanied by severe itching of the skin. Prurigo and pruritus cutaneus having been found to yield to its use in a remarkable manner—the itching in some cases ceasing almost immediately after its administration.

The form in which the remedy is best administered is that of pills. Each pill contains one grain, with four grains of some inert powder, and of these six to nine are administered daily at the beginning, the number being subsequently increased to from twelve to twenty. As much as a drachm of carbolic acid has been administered daily without injury, but so large a quantity is not necessary to produce the therapeutic effects. Dr. Kohn observes that in cases in which carbolic acid was found of decided utility, its beneficial effects were shown at a very early period after the commencement of its administration, often after a single day; and that in cases in which it failed to produce benefit early, that it usually failed altogether.—*Dublin Quarterly Journal of Medical Science.*

A Case of Severe Chorea During Pregnancy Successfully Treated with Hydrate of Chloral: By JAMES RUSSELL, M. D., F. R. C. P., Physician to the Birmingham General Hospital.

THE following case exhibits very strikingly the beneficial influence of chloral in controlling the movements of severe chorea, and in affording the patient the benefit of prolonged sleep. As is well known, the more severe forms of chorea, attended as they are by violent movements, continued without intermission through several days, and sometimes by a considerable amount of mental excitement, threaten the life of the patient through the exhaustion they induce; and the great aim of treatment is to obtain rest for the sufferer by sleep, and thus to afford the opportunity of recruiting the wasted strength.

For effecting this purpose inhalation of chloroform, so far as my experience extends, offers by far the most certain and effective means—far more certain and effective than opium—besides being free from some disadvantages which attend the operation of the last-mentioned medicine. In the present case, the failure of opium, which was administered through one day, contrasted strongly with the success of the chloral. But the utility of chloroform is limited in chorea; for the obvious reasons its inhalation cannot be continued for a sufficiently lengthened period to produce a permanent effect upon the disease, and the patient frequently awakens as violently agitated as ever. Chloral, therefore, promises to be a valuable substitute, by maintaining a continued evolution of chloroform in moderate quantity within the blood. Its action was most strikingly manifested in the present case, and, should the result be confirmed by further experience, chloral will prove of most valuable assistance in the management of these difficult and distressing cases.

There is, however, another point of view from which the present case obtains considerable interest. Clinical facts appear to demonstrate that a physical change in the tissue of some portion of the brain is at the foundation of chorea; but beyond this

supposed physical change the powerful influence exerted by emotion over the course of the disease demands attention, and to this fact must be added the asserted agency of intense mental impressions, and especially of fright, in its production, and also the acceptance by many observers of distant irritation as a cause of chorea, particularly when seated in the generative organs or in the alimentary canal. I do not now enter into the discussion of the evidence upon which these opinions rest, but I would observe, with reference to them, that, so far as they are accepted, they seem to point to a probable change in the minute arteries of particular portions of the brain, effected by contraction of their circular fibres, as a means by which the supposed effects may be produced, employing for this purpose the analogy offered by the usual explanation of the epileptic fit; I must, however, add that they by no means negative the independent evidence which exists in favor of the presence of some physical changes in the brain as the substratum of the whole.

Now in my present case, in addition to such a condition of the blood as would favor the deposit of fibrin in the minute arteries, according to Dr. Hughlings-Jackson's suggestion, we have also a "source of remote irritation," according to the other hypothesis, in the impregnated uterus; and on the other hand we observe that an agent which would exert a direct action in controlling arterial spasms, and which does actually check an epileptic paroxysm, rapidly removed all the severe developments of the chorea and reduces the case to the ordinary mild type, though it does not remove any of its essential characters.

It would not be safe to do more than make this suggestion in connexion with my present case; but the analogy which it affords, as well as other considerations, point to chloral as probably affording a useful remedy in those cases of epilepsy in which the status epilepticus is set up, and keeps the patient under the influence of a succession of fits. Puerperal convulsions and certain cases of the convulsions of children also fall into this category, and would probably be advantageously treated by chloral, which might be administered after an inhalation of chloroform in order to maintain its effects.

E. M., aged 21, a healthy vigorous-looking young woman, was admitted into the Birmingham General Hospital on October 29. She was nearly five months advanced in pregnancy with her first child. Choreic movements developed themselves from an unusually early period of gestation, almost from the beginning. It was asserted by her husband that she exhibited some irregular movements of the hands before marriage, but this assertion the patient most positively negatives. For the last three weeks, and especially for the last fortnight, the movements have become very violent, so that she was quite unable to stand, and was confined to her bed. They commenced in the left arm, and subsequently became general. Her eyes were "set," and the globes

often "worked." She had difficulty in opening her mouth, and the masseters were observed to twitch. She quite lost the power of articulating, though she retained that of swallowing. Her sleep also was very much disturbed. She had never suffered from rheumatism, though a sister had been laid up with rheumatic fever. Her heart was healthy, her urine was free from albumen.

At admission, she presented a very aggravated form of chorea, the limbs and trunk being tossed at intervals with frightful violence; articulation was practically extinguished, but she swallowed fairly; the pupils were contractile and of medium size; her mind was clear, but she was exceedingly emotional.

Full doses of bromide of potassium failed entirely, and her first night in the hospital was passed with only an hour and a half of sleep. At noon, on October 30, Dr. Welch, our House-Physician, administered the hydrate of chloral, and during the ensuing twenty-four hours she took seven doses, the first two of ten grains, the succeeding ones of fifteen. The first two doses procured some sleep, but after the third the sleep became more continuous, lasting successively for three, five, and three hours and a half. Whilst she was awake, the movements, though occasionally violent, were much lessened, and she spoke distinctly; she was also able to protrude her tongue; she took liquid food.

Thirty grains of chloral at 6 P. M. on the 31st were followed by two hours' sleep, but pain, seated apparently in the uterus, kept her awake during the remainder of the night; the movements returned in the morning with much violence, chiefly in the trunk and extremities, speech was again interrupted, and she became much excited. Nutritive enemata were now ordered on November 1, each containing six grains of quinine, with cod-liver oil; and two doses of tincture of opium, of thirty and forty minims respectively, were also administered by the rectum, the chloral being suspended. Although she was quiet during November 1, the smallest excitement threw her into instant convulsion, and during the night, though feeling a great desire to sleep, she was unable to close her eyes. The uterine pain subsided.

On November 2, after twenty grains of chloral at noon, she slept with little intermission till 9 P. M., when the dose was repeated, and she slept through the whole night; she told us next morning that she had enjoyed more sleep during that night than she had through the entire preceding month. She was almost perfectly quiet; her pupils were of medium size and contractile. Pulse was 104. She laughed and was in good spirits, but complained of inability to chew. She again took two doses at 5 and 6 P. M. of November 3, and slept from the former of these hours until 2 A. M., with one interval of an hour and a half. We found her in the morning perfectly quiet, thought a little fidgety, and her speech completely restored.

The same treatment on the evening of the 4th procured ten hours of nearly continuous sleep, and the sleep continued through

most of the following day. She now began to feed herself. The following night (of the 5th) the remedy nearly failed to give sleep; but on the 6th a single dose was perfectly successful. On the 7th no chloral was given; the night was sleepless. A single dose on the evening of the 8th, gave sleep through the entire night, and next morning she carried liquid food to her mouth, talked well, and protruded her tongue perfectly.

The chloral was discontinued on November 10. She had begun to walk, though in a very imperfect manner until November 25. She took every four hours fifteen minims of the tincture of hemp; she steadily improved in walking, and had good nights. From the 18th she began to sit up, and from December 2d spent a considerable part of the day out of bed, walking with fair facility, talking naturally, and presenting only the usual characters of a mild attack of the disease. She had emaciated partly, but otherwise was in good health. She left the hospital on December 10th, presenting only the symptoms of a mild attack of her disease.—*Medical Times and Gazette.*

St. George's Hospital.—Medical Cases.—Under the care of Dr. JOHN OGLE.

WE subjoin a few memoranda referring to cases at present or lately in this hospital, under Dr. Ogle's care, illustrating for the most part some interesting point in pathology or treatment.

Last week, at our visit, we saw a man with cardiac disease, who was under the influence of digitalis, which had been administered on account of great distress and violent action of the heart. Half an ounce of the infusion had been given every four hours for forty-eight hours, and the interval between the doses then lengthened to six hours for twenty-four hours more, at the end of which time the digitalis was discontinued. The pulse was now soft and compressible, and numbered about 48 in the minute. Dr. Ogle gave very particular instructions that the man should not be allowed to get out of bed, in order to guard against the occurrence of dangerous syncope. The day after the discontinuance of the digitalis, the pulse was 52, and on the day following 60 per minute; but with this acceleration the character of the pulse deteriorated, and it did not represent the heart's beating so well as it did whilst the drug was being taken. It is now 80 per minute. The digitalis did not seem to act much on the kidneys.

A case of delirium tremens, in which a good night's rest had been obtained by a drachm dose of the hydrate of chloral, which was ordered to be repeated. Going out, recovered.

Another case was that of a child with stridulous breathing and cough, whose symptoms, auscultatory and general, seem to in-

dicate the existence of some growth or tumour within the thorax.

We may draw attention also to an example of left facial paralysis of two weeks' standing in a man, attended by pains about the neck and shoulder of the same side, and treated with iodide of potassium, and iodine counter-irritation behind the ear. There is some anæsthesia of the face on the affected side, which at first was considerable; also slight deflection of the uvula to the opposite side on inspiration. The conjunctiva of the left eye, near the cornea, is "bloodshot," apparently from exposure.

Dr. Ogle mentioned the case of his laundrywoman, who had had complete facial paralysis of one side for twelve or fourteen years, in whom, however, this vascular condition of the conjunctiva does not exist, thought it may have done so at an earlier period.

Case of right hemiplegia, with aphasia, without any previous unconsciousness; no rigidity of limbs; recovering. The sphygmograph showed a difference in the pulse at the two wrists.

Case of disease of the upper cervical vertebra, improving under complete rest and cod-liver oil. The patient is attended also by Mr. Rouse.

Case of saccharine diabetes, in which the sugar has lately disappeared more or less, and sometimes completely so for a day or two at a time, in spite of starchy food and malt-liquor being allowed; the patient getting weaker and more emaciated, and lung-symptoms coming on.

The hydrate of chloral was employed in the case of a woman, aged twenty-one, affected with *scarlet fever*, in whom, three days after admission, pains in the fingers and ankles came on, which became red and swollen, exactly resembling rheumatic fever, temperature ranging about 102°. In this case, after four nights passed without sleep, fifteen grains of the hydrate of chloral produced a good night. Desquamation came on eventually. She is now convalescent, and the temperature is normal. The treatment was throughout by quinine and tincture of perchloride of iron, and hydrochloric acid.—*The Lancet*.

Obstructed Bowels; great pain; constant vomiting; failure of various remedies for six days; success of the morphia injection.—By JOHN BARCLAY, M. D., C. M., Banff.

SEP. 23, 1867.—E. W., unmarried, aged twenty-four, had, on the evening of the 21st, taken a smart dose of senna and salts, which had operated powerfully during that night and all next day down to six o'clock p. m. On the afternoon of the 23d she was suddenly seized with severe pain in the abdomen, a little above the navel, accompanied with retching and vomiting. She seemed in great agony; her pulse small, and 96 per minute. I ordered a pill, containing a grain and a half of opium, every four hours until re-

lieved, and a plaister, composed of extract of opium and mercurial ointment, a drachm to the ounce, to be applied over the belly, and a light poultice over all.

Sept. 27th.—Vomiting continues as severe as before; pain very little relieved; pulse 120, small; great thirst; urine scanty and red; no movement of the bowels since the evening of the 22d. Ordered ice to be swallowed, the ointment plaister to be renewed on the belly, laudanum enemata, and nourishment to be given in small but frequent quantities.

Sept. 25th.—Symptoms remain as observed yesterday; pulse 125, small; pain very little relieved; vomiting as severe as before; urine scanty. Ordered a calomel and opium pill every four hours and laudanum enemata.

Sept. 26th.—Symptoms very urgent, indeed; patient seems much worse; tongue and teeth covered with sordes; pulse 130, small; no movement of the bowels; great pain in the abdomen; vomiting of green bile incessant. Ordered the calomel and opium pills to be continued, strong purgative enemata to be administered, and repeated at intervals, and a blister to be applied over the belly.

Sept. 27th.—Patient much in the same state as yesterday; pain very severe; vomiting still the same; nothing was brought away by the enemata. At a consultation to-day, Dr. Manson recommended a trial of the sulphate of magnesia and magnesia mixture, which was accordingly ordered.

9. P. M.—No improvement; the blister, which had risen well, did not relieve the pain or vomiting. The mixture was vomited every time. No movement of the bowels. To persevere with the purgative enemata, iced champagne, and jelly of beef.

Sept. 28th.—Much in the same state as yesterday.

Sept. 29th.—Still no improvement; seems in a hopeless state; pulse 130, and very small; countenance pinched and anxious; intense thirst; great pain in the belly; no movement of the bowels; vomiting as severe as ever; has kept nothing whatever on the stomach; urine very small in quantity, and red. It now occurred to me to try the effect of the hypodermic injection of morphia in the skin over the stomach, fancying it might produce not only a general sedative effect and relief from pain, but perhaps a local one also, on the muscles concerned in the act of vomiting, and on the peristaltic action of the intestines. Accordingly, I sent for the syringe and injected fifteen minims of the solution over the stomach, and gave orders that in about three-quarters of an hour after, when probably the full effect of the morphia would be set up, a draught of warm castor-oil and laudanum, an ounce of the one and fifteen drops of the other, should be given, and if vomited to be repeated immediately.

10 P. M.—To my great surprise, I was told that the hypodermic injection had had the desired effect. The pain was relieved in a few minutes, and there was no vomiting; the castor-oil was

given at the proper time, and it also had stayed on the stomach, and had operated twice easily. There had been no vomiting since. She feels better in every way, only extremely weak. Pulse 120. To continue the iced champagne, beef-tea, and milk, to observe perfect quiet, and to have a repetition of the morphia injection if either the pain or vomiting should return.

Sept. 30th.—Still improving; the pain has ceased almost entirely, and there has been no vomiting. To inject the morphia at bed-time to-night, as she said she did not last night sleep very well.

Oct. 1st.—Going on well.

From this time she recovered slowly, but steadily. The morphia after last report was injected twice at bed-time, and then it was omitted, and bromide of potassium given instead. She enjoyed good health up to the present time (May 1869), never having had any return of the attacks. Now, however, she complains of cough, accompanied with slight hæmoptysis, and on examination tubercular deposit is easily detected at the apices of the lungs.

Now, as in the case first detailed, so in this, nothing could have been more marked than its extreme urgency, and the inefficiency of all the remedies prescribed; and nothing could have been more apparent than the immediate improvement after the injection of the morphia. The two most urgent symptoms, the pain and the vomiting, were almost instantaneously relieved, and the stomach was, as it were, compelled to tolerate the presence of the castor-oil until it passed into the bowels and produced its laxative effect.

Obstructed bowels, accompanied with intense pain and vomiting.—This case, which I shall describe shortly, was pretty much like that just detailed. I was called up at midnight on the 27th April, 1868, to go and see Mrs. B., aged thirty-three, who was said to be dying. I went, and found her in a state of perfect collapse; no pulse could be felt at the wrist; the skin cold and pale. She complained of intense pain, which had come on suddenly, all over the body, and she had vomited once. Bowels had not been opened for three days. Being six miles from any apothecary, and finding a phial of chlorodyne in the house, I gave her twenty-five drops in a little water, and ordered it to be repeated if vomited immediately, and in two hours if the pain should be unrelieved. I ordered, also, calomel and opium pills, which were to be given, if necessary, when they were procured, one every four hours; an opium plaister to be spread over the belly, and a poultice over it; also, plenty of external warmth.

April 28th.—Has rallied a good deal, but has vomited everything, and complains of the pain being severe, especially so in the hypogastric region. Pulse 115, pretty full; bowels have not been opened; urine scanty and high colored; tongue dry and glazed; great thirst; severe headache. I injected fifteen minims

of the morphia solution over the part where the pain was complained of, and ordered a black draught to be given an hour after.

April 29th.—The pain, which was immediately relieved on the injection of the morphia, has not returned, and there has been no vomiting since the draught operated twice, bringing away copious offensive dejecta. Feels much better. Pulse has fallen to 72. Ordered the morphia to be injected again if the pain or vomiting should return.

May 1st.—Has not required the morphia; feels pretty well, but weaker, and has no appetite. Has not slept well during the last two nights, and still complains of some headache. Ordered bromide of potassium and tincture of hops before dinner and at bed-time.

May 10th.—Feels now quite well.

This case also showed symptoms of great severity, which were very speedily relieved by the hypodermic injection. During the past six years I have employed this method many hundred times, and almost always with the best results. The above cases show how valuable it is in angina pectoris, and in obstruction of the bowels, accompanied with severe abdominal pain and vomiting. And every day experience shows how good results can be obtained from its employment in rheumatism, both acute and chronic, lumbago, sciatica, insomnia, mania, melancholia, neuralgia, delirium tremens, threatened abortion, in various departments of midwifery, etc. The only remedies I have used hypodermically have been morphia, atropia, and caffeine. Atropia is a powerful and effective remedy in many cases, but not so safe nor so pleasant as morphia, which possesses nearly all the advantages of the other. I tried caffeine in one or two cases, but was disappointed in it. In one patient, suffering from insomnia, it produced intense sickness, and had no effect in relieving the sleeplessness. In another I gave it where much pain was complained of, without affording any marked relief. The dose I gave in both cases was one grain, as recommended by Dr. Anstie, in a paper published by him in the *Practitioner* for July, 1868.—*Medical Press and Circular*.

Obstinate Gastric Irritability, Treated by Hypodermic Injections :
By JOHN HARRISON, Esq., Congleton.

JAMES MITCHEL, aged 19, suffered during three years from severe attacks of vomiting, which were induced by all kinds of solid food, and by all liquids. Pure water was not always rejected. Sometimes, and sometimes only, a few spoonfuls of beef-tea, milk, or mutton-broth, would not cause sickness. He was obliged to leave the table several times during each meal, and lost many dinners daily in his attempts to retain one. Excessive weakness, depression of spirits, and pallor were the obvious

results of this disease. He was treated by me, and by various other medical men, during his illness, without any benefit, and was for six weeks an in-patient of a large hospital, where great care was bestowed upon his diet and treatment, without avail. He was fed entirely upon milk, and milk with lime-water; a teaspoonful only was given each half-hour; but he did not improve.

The patient came under my notice again in June 1868. I had just then successfully treated a most obstinate case of vomiting consequent on pregnancy, by the hypodermic method, (*Vide British Medical Journal*, August 3d, 1868) and resolved to try the same plan with this patient. At first, one-fifth of a grain of morphia was injected; afterwards, the dose was gradually increased to one grain. At the end of a fortnight the strength of the injection was gradually diminished, and was finally discontinued in six weeks from the date of the first injection. During the period of treatment, the patient steadily improved in every respect, the vomiting ceased, he gained flesh, and was soon able to work hard as a farm-laborer. Once or twice during the past year, nausea and slight sickness have been felt by him, but ordinary remedies have easily removed these threatening symptoms.—*British Medical Journal*.

On the Treatment of Constitutional Syphilis by the use of Creasote and Carbolic Acid.—By MR. MORGAN, F.R.C.S.I., &c., Surgeon to Mercer's Hospital, and the Westmoreland Lock Hospital, Dublin.

HAVING treated, during the last twelve months, a large number of cases of constitutional syphilis by the administration of creasote in full doses, I would draw attention to its value when given in the early stages of constitutional infection, and specially where mercurial treatment is inadmissible, or when patients are of the strumous diathesis.

It must be admitted that no one remedy or line of treatment can boast of unvarying success in this disease, not even mercury itself, however carefully exhibited. I cannot claim for the creasote treatment a uniform success, but I have found it most decidedly useful and curative in many instances of constitutional manifestations.

Various, indeed, have been the suggestions as to the nature of the syphilitic poison; if analogous to hydriphobia, or a ferment in the system, or an "algoid vegetation," as lately suggested, it is, unhappily, too true that the poison, once introduced, is so capable of causing an alteration of the whole organism that, to use the words of Lancereaux, "the individual has acquired the syphilitic constitution, and is no longer a normal being, but an individual deviating from the type, having undergone a kind of degeneration."

The cases in which I adopted this method were chiefly those suffering from the first influence of this "syphilitic constitution," such as mucous patches, roseola, papular eruption, and cachexia. The usual plan I followed was, keeping the patient in bed as far as possible, allowing a nourishing diet, and the use, at least every second night, of a warm bath, to which two ounces of carbolic acid were added; the patient should remain in this bath half an hour, or even longer, so as thoroughly to influence the skin. The creasote mixture I prescribed was—

R Creasoti, ʒj.
Mucilaginis, ʒj.
Tere et adde—
Tinct. opii, ʒj.
Aquæ menthæ pip., ʒviij.
M Sumat coch. i., magnum, *quarter in die.*

Usually within ten days an amelioration takes place, and gradually the signs fade. Should iritis or any acute sign appear requiring mercurial treatment, this remedy can be given as well as the creasote mixture.

The following selected cases illustrate successful treatment; of course all hygienic adjuvants must be allowed their share in the recoveries, such as regular hours, non-exposure to cold, moderation in the use of food and stimulants, equable temperature, etc.

The following exemplify cases where the primary and constitutional signs co-existed :—

CASE 1.—*Never previously affected; papular eruption, complicated with struma.*—A patient, aged nineteen, strumous, and with enlarged glands in the neck, came under treatment for a primary sore, which resisted auto-inoculation, and was of one fortnight's duration. At the third week papular eruption appeared, accompanied by mucous patches and slight pains. Under the influence of creasote mixture and carbolic acid baths the signs disappeared in about six weeks.

CASE 2.—*Never previously affected; papular eruption, with suppurating strumous glands in the neck.*—A patient, aged nineteen, with two suppurating glands in the neck, came under treatment for a primary sore, which resisted inoculation, and was of one fortnight's duration. The sore was indurated, but there were no inguinal enlargements. In about three weeks from the appearance of the sore, and before it was healed, papular eruption and pains supervened. Creasote and carbolic baths effected a cure in about four weeks.

CASE 3.—*Patches and roseolar eruption.*—A female patient, aged twenty, affected for the first time with a non-indurated sore at the fourchette of one month's duration, without any inguinal enlargements. Suffered at the expiration of a month from copious patches and roseolar eruption; auto-inoculation performed once, was unsuccessful. There were no osteoscopic pains, and but

little cachexia. Treated by carbolic acid baths and the creasote mixture.

CASE 4.—*Papular eruption and pregnancy*.—A female patient, aged twenty-six, affected for the first time with a large non-in-durated sore at the vagina, capable of auto-inoculation, and with double acute, but not suppurating bubo. Suffered before the healing of the sore from a most copious papular eruption and cachexia, being pregnant about five months. Under the influence of the creasote mixture the rash disappeared, and her health improved. She produced a well-developed plump child at full time; the mother remained in good condition.

CASE 5.—*Roseolar eruption and pains*.—Patient, aged seventeen, suffering for two weeks from a sore for the first time; capable of inoculation and re-inoculation; was affected by copious roseolar cachexia and pains; the rash was very abundant, and acute in its appearance. Treated, also, by creasote and carbolic baths.

The following illustrate some cases occurring subsequent to the healing of the primary sore:—

CASE 6.—*Pustular eruption and cachexia*.—Patient, aged twenty-three; six months after the appearance of the primary suffered from cachexia and pustular eruption of three weeks' duration before seeking treatment. Treated by the creasote mixture. The carbolic baths gave much relief to the pustular eruption.

CASE 7.—*Papular eruption and cachexia*.—Patient, aged twenty; six months after the primary suffered from papular eruption and cachexia; the character of the sore is not known. Treated, also, by creasote and carbolic baths.

CASE 8.—*Ulcer of the uterus and roseola*.—Female patient, aged twenty-five; suffering for three weeks from roseola and patches; has also a well-marked ulcer around the os uteri, but is otherwise in good health. The inguinal glands are enlarged. Treated by creasote and carbolic baths. The ulcer uteri was treated by topical applications.

CASE 9.—*Sore, accompanied by suppurating bubo*.—Female patient, aged eighteen; suffered from sore at labium, accompanied by a suppurating bubo; and in six months developed patches and most extensive papular eruption. She was treated by tonics and creasote. In six months she contracted another sore at the fourchette, which resisted inoculation, although she was suffering at the time from papular eruption. Treated, also, on this occasion by the creasote mixture and carbolic baths.

CASE 10.—*Married woman infected by child-bearing*.—A strong woman, married seven months, produced at that time a dead child, decomposed. She had observed for about two months blotches on the skin; never had any primary sore, but copious mucous patches. Treated by creasote and carbolic baths.

CASE 11.—*Patient advanced in years, suffering severely*.—A respectable tradesman, nearly sixty years of age, contracted a sore last July; it occupied the greater part of the corona, and

was auto-inoculable. For six months the man remained without a sign, when a most copious rash of a large papular form appeared, also pains of a severe character supervened, and the condition of the patient became miserable in the extreme. By the use of creasote, combined with iron and good diet, the patient convalesced rapidly.

I have also treated infected infants with drop-doses three times a day, but in them mercury is so entirely satisfactory that no more practical remedy can well be used.

These cases, illustrating various forms of the affection, are interesting, and speak for the efficacy of the method; the larger the doses the patient will take the better, up to six or eight minims three times a day. I have healed some cases by creasote enemata night and morning; ten minims to two ounces of fluid, thus avoiding any objection as to taste.—*The Medical Press and Circular.*

The Relapse in Famine Fever : Letter from MR. A. W. BLYTH.

SIR,— I believe no explanation has hitherto been brought forward of the remarkable phenomena that mark the course of relapsing or famine fever. At such a time as this, when the present epidemic appears to be daily increasing both in extent and severity, any theory pretending to lead to the practical result of preventing the relapse demands attention, if it be not altogether unreasonable. I therefore promulgate some ideas on the subject, in the hope of seeing them disproved or proved.

All agree that, in this fever, a specific poison, somehow or other, gets into the blood, having, like other specific poisons, as those of typhus or the exanthemata, a period of incubation, a period of activity, and, lastly, a period in which, in favorable cases, the poison is eliminated or thrown off from the system. While these poisons are in the circulation they are most likely multiplied a millionfold; as this can be proved to demonstration in some, it probably occurs in all. Facts tend to show that, during the active period, some of the morbid material is being continually excreted, and also that there is a certain time, usually coinciding with some marked crisis phenomena, such as excessive purging or sweating, when it is thrown off in immense quantity and in a free state; that it is thrown off as an active poison is evident from contagion resulting when it is introduced into the system. Some may be decomposed in the act of elimination, but of this there is no proof.

In typhus, the exanthemata and others, one attack, acting in some peculiar manner on the minute elements of tissue, exhausts the susceptibility for a longer or shorter time. A patient during convalescence from scarlet fever has enough scarlatina poison

hanging about his clothes and skin to infect a vast number of people; he is a source of contagion to all who have not had the disease, but he himself moves in this poison-atmosphere perfectly safe; either he does not reabsorb it, or if it be absorbed no effect results. This one attack may efficiently protect him for months, years, or a whole lifetime; but, if he gets a second attack, the protection is generally permanent, though there are some cases in fever and exanthem history where, from some peculiarity of constitution, a person takes one of those fevers whenever he is exposed to the contagion. Thus Dr. Baron records the case of a surgeon who took small-pox whenever he attended a person suffering from that disease; but, without regarding anomalous cases, the general result is, that the longer the minute elements of tissue are exposed to the action of one of these fever poisons, the more efficiently is the system protected. Reasoning from these data, it appears not improbable that when those profuse crisis phenomena occur in relapsing fever—when the skin suddenly excretes that odorous and sour perspiration—this cutaneous secretion contains a large quantity of the relapsing fever poison in a free state. The patient, exhausted by the general depression of his illness, and in many cases made still weaker by a sudden and excessive sweating, breathes an atmosphere of an intensely poisonous nature, and as fast as it is excreted by the skin so does this poison re-enter the body by perhaps the pulmonary mucous membrane; in fact, it is reabsorbed. The poison has not been long enough in the body to exert those mysterious tissue changes necessary to protect the sufferer even for a few days, and thus the seven or eight days of apparent health would be the period of incubation anew; in other words, it is a continued fever running a course of five or six days, but two distinct attacks follow each other so closely that they appear as one. In further support of this theory several facts may be brought forward:—

1. The time intervening between the first attack and relapse is not at variance with what is known concerning the duration of the latent period, which has been estimated from four to ten days. (Murchison, p. 311.)

2. Another fact in favor of this theory is that persons may have a second or third distinct attack of fever during the same epidemic. Dr. Christison had three separate attacks in fifteen months. (Murchison, p. 312.)

3. Medicines appear to have no influence in preventing the relapse. If the case is as above imagined, they could hardly be expected to do so.

I may also mention that the relapses sometimes occurring in typhoid fever have been explained by Dr. Johnson to be most probably caused by the reabsorption of the poison by the bowel. If this could be proved, it is obvious that it would be a fact greatly in favor of these views, being strictly analogous. If this reabsorption theory be true, little can be expected from the in-

ternal administration of drugs to ward off the relapse ; but there is everything to hope from the use of mechanical or chemical means to remove or decompose the poison as fast as it is eliminated. This substance, though we have neither seen nor handled it, is no immaterial essence, but it is a material, and has some definite chemical composition, which chemistry may probably decompose. What particular agents will do this, experiments, carefully performed, can alone determine. The common-sense mechanical means of removing excreta ought certainly not to be neglected—such as frequent change of bedding, spunging the body with warm water, or with warm disinfectants. Then substances, such as the alkalis, might be applied externally in solution, applying these on account of their strong chemical affinities, in the hope that they may decompose and fix, as it were, the poison ; good might be expected from potash, for instance. Thus Dr. Shortt, of Madras, in his cobra experiments, found the only thing out of the body that would kill, as he terms it, the cobra poison was a solution of potash. A convenient way of employing such chemical agents externally is to apply clothes dipped in warm dilute solutions of the alkali next the skin, covering these with oil-silk, and over all a blanket, the whole of the patient's body being swathed in this manner, with the exception of the face and head. But, whatever be the means employed, whether mechanical or chemical or both, they ought to be continuous during the fever stage, and especially at the crisis ; for when the temperature has gone down, it is obvious they can do little good.

I am, etc.

A. W. BLYTH.

—*Medical Times and Gazette.*

King's College, December 4.

Cases of Renal Disease.—Under the care of Dr. SIBSON, F. R. S., St. Mary's Hospital.

WE give short details of two instructive cases of renal disease which were recently in Dr. Sibson's wards. The first was that of a man with general dropsy, especially marked in the lower limbs and walls of the abdomen, sallow and puffy face, and weakness. He had served as a soldier in India. The œdema had commenced in his legs eight months ago, followed by cough ; and, during the last three months, orthopnoea. On admission, the abdomen measured in circumference forty-two inches, the enlargement being due, in great measure, to œdema of the areolar tissue of the abdominal walls, and not to ascites, and also to distension from flatulence. The knees measured eighteen inches ; the urine was smoky, of specific gravity 1022 ; and, when heated, it became solid, so large was the amount of albumen ; numerous waxy and fatty casts were discovered in the urine on microscopical examination. The impulse of the heart was barely perceptible, and the sounds presented merely an abnormal ringing character. The

amount of urine passed varied from twelve to thirty-two ounces daily, when Dr. Sibson commenced the use of tincture of digitalis. This was followed by a marked increase in the amount of urine. The legs became smaller, and the circumference of the abdomen reduced to thirty-eight inches, showing a diminution of four inches from the time of admission. Dysenteric symptoms supervened, however, which ultimately cut him off.

At the *post mortem* examination, large waxy and fatty kidneys were found. The heart was not enlarged; if anything, it was smaller than usual. Dr. Sibson pointed out that this was not a case of contracted or granular kidney, occurring in gouty people, in which there are usually found a large quantity of urine, little dropsy, a scanty number of granular casts, little albumen, and hypertrophy of the heart. Of twenty-one cases of contracted kidney mentioned by Dr. Bright, in sixteen there was hypertrophy of the left ventricle; whereas, in thirty-seven cases of large soft kidney, only two exhibited hypertrophy of the left ventricle. Dr. Dickinson has said that one half of the cases of contracted, and one-fourth of large soft kidney, showed hypertrophy of the left ventricle. In addition to the renal disease in this case, there were found as many as nineteen old hepatic abscesses containing cheesy matter, of which the walls were tending to shrink. The solitary glands of the colon were enlarged.

The second case was that of a man aged 54, who had been discharged convalescent from carbuncle six months previously, and who was now admitted with puffiness of the face, expansion of the *alæ nasi* in expiration, effusion into the abdomen and *œdema* of the lower extremities, dulness over the lower lobes of the lung behind, and great difficulty of breathing. The urine was turbid; specific gravity, 1015, with numerous fatty, granular, and epithelial casts. He was treated by the hot-air bath, elaterium, jalap, with saline and other diuretics. He continued to pass about twenty ounces of urine with a specific gravity of about 1010, when two drachms of tincture of digitalis were given twice daily. The urine immediately increased to forty ounces daily. The *œdema* was diminishing considerably, when sickness, probably the result of the digitalis, supervened. The digitalis was for the time stopped, and bromide of potassium—which Dr. Sibson finds to answer admirably as a sedative—was ordered in its stead. In a few days the digitalis was again renewed, and the man shortly afterwards left the hospital, free from his dropsy, and passing double the amount of urine daily to that voided on admission. He now came as an out-patient, and was being treated with liquor ammoniæ acetatis and tincture of the perchloride of iron. Dr. Sibson remarked in this case, that the saline diuretics and other remedies tried at first had no effect in reducing the dropsy; but when the digitalis was commenced, an immediate effect was produced. The patient had merely the kidney affection to contend with, whereas the first patient was a more or less worn-out soldier who had served in India, and had disease of the liver.—*British Medical Journal*.

QUARTERLY RECORD OF OBSTETRICAL SCIENCE.

COLLATED BY JOS. HOLT, M. D., PROF. OF OBSTETRICS, NEW ORLEANS SCHOOL OF MEDICINE.

On Points to be Observed in Ovariectomy: By D. LLOYD ROBERTS, M. D., M.R. C. P. Lond., Physician to St. Mary's Hospital, Manchester. (Abstract of a paper read at the St. Andrews Medical Graduates' Association.)

ALL operations involving abdominal section should be performed in a room, light, airy, lofty, and free from draughts. In hospitals a ward should be specially and exclusively appropriated to the purpose, the walls of which should be painted, to admit of frequent washings, and obviate to the utmost extent the absorption of putrid effluvia, and the consequent risk of pyæmia or surgical fever. For the same reason, the ward should contain as little furniture as possible. In short, every available precaution should be taken to avoid an unhealthy atmosphere, a condition well known to be eminently prejudicial to the subjects of abdominal operations.

The *operating-table* should be opposite and near a window. The patient should be well and completely covered with flannel for warmth, and only the abdomen and face exposed. The bed thoroughly warmed to receive the patient, should be at hand; and she should be lifted into it with the utmost care, as the slightest concussion is liable to bring on vomiting.

Temperature of the room.—The high temperature advocated by the earlier operators is wholly unnecessary, and even injurious, as it increases the risk of chloroform accidents. A temperature of 64° I have found most favorable.

Anæsthetics.—I have invariably used chloroform. From its tendency to excite vomiting, which is a very formidable complication in all abdominal sections, it is doubly important that the patient should be brought and maintained under its influence by as small a quantity as possible. This is the primary object to be kept in view; and, whatever be the apparatus used, careful and experienced administration is essential. Mr. Spencer Wells informs me that he has used methylene in preference to chloroform for the last two years. Dr. Keith has employed sulphuric ether, and the very little vomiting which resulted, added to the success of his operations, appear to constitute a strong recommendation in favor of that anæsthetic.

Incision.—Considerable difference of opinion existed among the earlier operators upon this point. It may now be regarded as established, that the extent of the incision should be determined, not only by the size, but also by the nature and consistence of the tumor, the small incision being first practised and enlarged according to the necessity of the case. When the contents of

the tumor are fluid, they can be easily drawn off by the canula, the cyst, thus diminished in size, following by the slightest traction through a comparatively small incision. On the other hand, if the tumor is solid and does not admit of reduction, it is better to enlarge the incision than violently to drag a solid, unresisting mass through an opening wholly inadequate for the purpose. The extent to which compound cystic tumors may be reduced by the method adopted by Mr. Wells in emptying one cyst through another by the trocar, is surprising. In making the superficial incision it is well to avoid opening the peritoneum until quite sure there are no bleeding vessels; which, if discovered, should be twisted or tied. The incision should be made down to the peritoneum without a director. This membrane can then be pinched with the forceps, the fold thus produced divided with the knife, and the director inserted. The membrane can then be divided upon it, above and below, till the incision is coextensive with that in the abdominal wall. This first incision may reach to two inches above the pubes.

Adhesions.—Before tapping the cyst, the hand should be passed through the incision and over the tumor to ascertain if there be any adhesions. If so, they may be separated by the hand, by the handle of the scalpel, or even by dissection. Adhesion to the bladder, liver, intestines, omentum, and abdominal parietes are dangerous in the order enumerated. The separations of adhesions to the liver, intestines or bladder is better effected by careful dissection, great care being necessary in order to avoid denuding the viscus of the peritoneal coat or perforating the intestines. Bleeding vessels are best treated by actual cautery or by ligature, cutting the ends close, the latter being the safest practice.

Pedicle.—There are now various methods of treating the pedicle—viz., by clamp, ligature, actual cautery, *écraseur*, pocketing the pedicle (Storer), and the seroso-plastic method (Maslowsky), each possessing peculiar advantages according to the nature of the case. When the pedicle is sufficiently long, and not very broad, and can be brought externally without undue traction on the uterus, the clamp, as first used by Mr. Hutchinson, and afterwards more extensively by Mr. Spencer Wells, offers the best method of treatment, as all suppuration into the abdomen and pelvis is avoided, and the risk of septicæmia, etc., diminished. The ligature is applicable in all cases, whether the pedicle be long or short. The practice, however, of tying the pedicle, bringing the ends of the ligature externally, and allowing it to slough its way through, is not only tedious, but involves the risk of pyæmia, pelvic and peritoneal mischief. To obviate these inconveniences, Dr. Smith has revived the bold and ingenious practice of ligaturing the pedicle, cutting the ends close, returning it into the abdomen and closing the wound, and this treatment has been most successful in his hands. Those who ad-

vocate the use of the cautery do so on the supposition that the ligature, if returned into the abdomen, may prove a source of irritation, and this plan has also proved very successful in the practice of Mr. Brown, Skoldberg, and others. It is most applicable in short, thick pedicles, where there is little adipose tissue and the vessels are of small calibre.

Cleansing the abdominal cavity.—This should be done with sponges, which ought to be of moderate size, warm, soft, and perfectly clean. The viscera should be disturbed as little as possible, but it is very desirable that all clots and fluid matter should be removed.

Bringing of wound together.—This may be done by means of pins, silk, or silver wire; the latter, in my opinion, being the most preferable, as it keeps the parts in better apposition, produces less irritation, and, if necessary, can be kept longer in than pins or silk. The peritoneum should be included in the ligatures, and there should be three sutures to an inch of surface.

Dressing the wound.—The wound should be still further supported with crossings of plaster, over which a layer of cotton wool may be placed. There is no necessity for a bandage as a support, as it produces in many cases a good deal of discomfort, is very apt to become displaced, and prevents a ready examination of the wound.

The *after-treatment* may be conducted on general principles. The patient should have as little food as possible for the first forty-eight hours, so as to obviate the tendency to sickness or vomiting. The food should be of a fluid and bland character, such as toast-water, milk-and-water, etc., in small quantities and at divided intervals. Pain, restlessness, and vomiting are best controlled by opium given by the rectum in moderate doses. If the patient goes on well for three or four days, she may be allowed a little light food, such as chicken-broth, beef-tea, sago pudding, and good coffee, with milk and dry-toast; a little champagne or sherry with water may also be allowed. The bowels should be relieved about the fifth day by enema, which after this may be used every other day. The periodical use of the catheter should be enjoined every four hours the first few days after operation. The ligatures may be renewed about the fifth or sixth day. A patient who has undergone this operation should be provided with a day and night nurse, and in hospitals they should have nothing to do with the dressing of other cases.

—*Lancet.*

Barnes' new Method of Craniotomy.

THE forceps scie, or chain saw forceps of Prof. Van Huevel, of Brussels, was scarcely known in this country before the exhibition of instruments held by the London Obstetrical Society in 1866, though the memoir describing it was published in 1842. The instrument consists of a pair of strong long forceps carrying a

chain saw. The head is first seized with the forceps and then cut into pieces by the chain saw. Dr. Barnes objects to this, that in cases of extreme distortion there is not room for the blades to pass. His own operation consists in passing loops of strong steel wire over the head and making sections by means of Weiss' ecraseur. At the date of publication he had not had an opportunity of performing the operation on the living subject, but he demonstrated it on the dead subject before the London Obstetrical Society on 2d June, 1869, from the report of which, in the *Medical Times and Gazette*, the following extract is taken :

"Dr. Barnes first perforated the head, then introduced the crotchet to steady it, then passing the wire loop into the uterus, which could be done by compressing it; and when the loop was sufficiently high, by removing the compression it opened by its elasticity, and was made to seize the head in its circumference at the occipital end. Then, by working the screw, the wire made a clean section of the head, taking off all the posterior part; this part was then removed by craniotomy forceps. Then the wire was reapplied in the longitudinal direction of the head, seizing under the jaw and ear, and another section made through the base of the skull. This was commonly enough. The remains of the head were then seized by Dr. Barnes' craniotomy forceps, and easily drawn through the pelvis. Then there was the body, often opposing great difficulty. This he overcame by perforating the chest, by hooking the crotchet in the axilla of one arm to draw it down within reach of the embryotomy scissors to cut off; then the chest walls were cut up by the embryotomy scissors and drawn through the pelvis, either cutting off the other arm previously or not. The operation had this great advantage over the old crotchet and craniotomy forceps operations, that it involves little or no pressure or contusion, or dragging upon the uterus or other soft parts. The wire buried itself immediately in the head, and no bulky instruments or manœuvres bruising the soft parts were necessary.—*Dublin Quarterly Journal of Medical Science*.

Speculum.

AT the suggestion of Dr. A. Meadows Messrs. Mayer and Meltzer have added to the ordinary bi-valve speculum two lateral bars which, when the instrument is closed, lies between the blades, and when it is open stand out one at each side, so as to prevent the folds of the vagina from falling in so as to obscure the view of the uterus. A further improvement in this speculum was exhibited by Messrs. Mayer and Meltzer at the Leeds Meeting of the British Medical Association, which consisted in making the anterior blade half an inch shorter than the posterior, by means of which the os uteri is much more easily brought into view, and the dragging of it forwards, which takes place when the anterior blade is of the same length as the posterior, is obviated.—*Dublin Quarterly Journal of Medical Science*.

*Puerperal Fever Treated by Injection of Ammonia into the Veins.
Complication of Pregnancy with Ovarian Diseases.*

At the Obstetrical Society of London, Dr. Tyler Smith read a paper on a case of puerperal fever treated by the injection of ammonia into the veins, followed by recovery. The patient, a primipara, was delivered by forceps on November 1st. On the 5th symptoms of puerperal fever supervened, and on the 12th she was in such imminent danger that Dr. Smith determined to try the injection of ammonia into the veins, as practised by Dr. Halford in Australia for snakebite. The operation was performed at 7.45, P. M. A solution of one part of liq. ammoniæ to three parts of water was injected to the extent of half a drachm into one of the veins of the right forearm. As soon as two or three drops had been injected she roused, and complained of severe pain in the opposite arm. When the operation was completed there was very great pain over the whole body, with intense smarting of the right arm. This continued without abatement for several hours. The sickness ceased at 11, P. M., but the bowels were moved four times in the course of the night. Towards morning the pain subsided, and she got a little sleep. November 13th.—The abdomen had much diminished in size, and the pulse had fallen to 100. 14th.—Expressed herself as feeling better, and was quite sensible, though pale and weak. Pulse 108. Right arm at seat of puncture red and swollen, and the veins of the arm were distinctly mapped out. Was able to take a little food without sickness. 15th.—Tongue getting natural; pulse 100; abdomen less in size. 17th.—Still progressing favorably; a small ulcer had formed on the right arm at the seat of puncture. A slight relapse occurred on the 20th, but after the 22d her improvement was uninterrupted. In commenting upon the case, Dr. Smith observed that he had never seen a patient in a similar condition recover, and, although he had as yet adopted this treatment in this case alone, so successful was the result that he had felt it incumbent upon him to bring the particulars before the Society. He would not at present offer an opinion as to whether the ammonia acted as an antidote or stimulant.

Dr. Aveling would have liked a fuller account of the history of the plan of injecting medicinal fluids into the veins, as it was a method of treatment of much antiquity.

Dr. Barnes said reference to the history of venous injections did not diminish the merit of applying this method to the treatment of puerperal fever. In this disease it was often difficult to get remedies absorbed; the only hope seemed to be in direct injection into the vascular system. He then adverted to the practice of saline injections in cholera, by which many lives had been saved. At the last meeting of the Society he had stated his opinion that the injection of saline fluids and transfusion ought to be, and would be, largely extended; and in his work on ob-

stetric operations, now through the press, he had advised it in certain cases of puerperal convulsions, fever, and obstinate vomiting. He doubted whether the fluid used by Dr. Smith was the best. He should prefer a fluid like Dr. Little's, made of similar specific gravity to that of the blood, adding a little ammonia and alcohol. He thought the indication was to carry the ammonia in a considerable bulk of fluid, not concentrated.

Mr. Spencer Wells said he had been much struck by Dr. Halford's reports, and last March he had injected half a drachm of liq. ammoniæ into one of the veins of the arm of a woman two days after ovariectomy. The pulse and temperature had risen to 140 and 102.8°, with the usual signs of fibrinous deposit in the heart. Scarcely more than a momentary revival followed the injection, nor more after another by Dr. Junker two hours afterwards. A large fibrinous clot was found after death filling up the left ventricle. Mr. Wells suggested that if Dr. Smith's example is followed, great care should be taken only to inject ammonia where there is an excess of fibrine in the blood; to inject it in cases of any low form of fever or blood-poisoning, where the breath exhaled is charged with ammonia and the blood is already too fluid, would be excessively dangerous.

The President observed that the Society was much indebted to Dr. Tyler Smith for bringing this interesting case forward. One swallow did not make a summer, but new facts were always deserving of attention.

Mr. T. Spencer Wells read a paper on the Complication of Pregnancy with Ovarian Diseases. The author related fifteen cases of pregnancy complicated with ovarian diseases which had fallen under his own observation, restricting his remarks to questions of treatment. In three cases sudden death followed spontaneous rupture of the cyst in or before the seventh month of pregnancy. In two cases pregnancy and ovarian disease went on together without interference, and lingering labors ended in the birth of stillborn children. In one case twins were born alive; but the mother had suffered greatly from distention. In one case five and in another six pregnancies had gone on, and ended normally without interference, but in the last case the cyst ruptured spontaneously in the seventh pregnancy. Five patients were tapped during pregnancy—one twice, one three times, and three once. In all five living children were born after natural labors. In one of them ovariectomy was successfully performed four months after delivery. In one case ovariectomy was performed in the fifth month of pregnancy; the uterus was emptied at the same time, and the patient recovered. In the concluding case of the series ovariectomy was performed successfully in the fourth month of pregnancy, after spontaneous rupture of the cyst and peritonitis, pregnancy proceeding without interruption. The author believed that a careful consideration of these cases would lead to the following conclusions:—1. Pregnancy and ovarian diseases might go on together, and end

safely both to mother and child. 2. But in a large proportion of cases, probably in nearly all where the ovarian tumor was large, there was danger of abortion, or, if the pregnancy proceeded to the full term, of lingering labor and a still-born child; and throughout the later months of pregnancy there was danger of sudden death to the mother from rupture of the cyst or rotation of its pedicle. 3. Spontaneous premature labor might not save the mother from these perils; and the induction of premature labor almost implied sacrifice of the child, with considerable risk to the mother. 4. There was no proof that tapping an ovarian cyst was more dangerous during pregnancy than at any other time. It would generally afford immediate relief to distension, and lead to the normal termination of pregnancy in the birth of a living child at a very slight risk to the mother, if proper precautions were taken to prevent the escape of ovarian fluid into the peritoneal cavity, and the entrance of air into this cavity and into the cavity of the cyst. 5. If an ovarian cyst should burst during pregnancy, removal of the cyst and complete cleansing of the peritoneal cavity might save the life of the mother, and pregnancy might go on to the full term. 6. Of three cases on record, where a pregnant uterus had been punctured during ovariectomy, the only recovery was in the one case where the uterus was emptied before the completion of the operation.

Dr. J. Braxton Hicks then read a short account of six cases, comprising eight pregnancies where pregnancy was associated with ovarian cystic disease. In none had any symptoms of danger arisen, and all were delivered of live children at full term. Dr. Hicks also mentioned that he had never seen any other case with this complication attended with untoward symptoms. He thought a collection of a larger number of cases necessary, before the necessity for the induction of premature labor could be established as a rule.

Dr. Bathurst Woodman referred to the bursting of thin-walled cysts as not uncommon where there was no complication with pregnancy, and considered that the relative frequency of a favorable or unfavorable result in such cases was an important element in the discussion of the present subject.

Dr. Playfair referred to the complication of labor with ovarian tumor, of which he had collected the details of fifty-seven cases. Of these fifty-seven thirteen had proved fatal; and this mortality was probably due to the contusion to which the tumor was subjected during the pains. Every case in which the cyst had been punctured (seven in number) had done well.

Dr. Wiltshire asked Mr. Spencer Wells if he would kindly tell the Society how he would treat cases of solid or semi-solid ovarian tumor complicating pregnancy. Tapping, though useful enough in unilocular cysts, would in such cases be nearly useless.

Mr. Bateman, after referring to the case in which he was en-

gaged with Mr. Wells, gave some particulars of a case of ovarian tumor obstructing labor, and necessitating craniotomy, which had occurred in his practice many years ago. About three weeks after her confinement the patient succumbed to an attack of erysipelas.

Dr. Barnes, in reply to Dr. Wiltshire, said the practical rule was, when the tumor obstructed labor, act upon the tumor so as to free the passage for the child; when this could not be done, then act upon the child.

Mr. Spencer Wells said, in reply, that he could not see why an ovarian cyst should not be tapped during labor. In the case of a multilocular cyst, probably one of the largest cysts might be emptied by tapping. If not, and the whole tumor was more or less solid, the case would then be one for careful consideration, and the question of instrumental delivery, the Cæsarean section, or ovariectomy would have to be determined by the circumstances of the case.—*Medical Times and Gazette*.—*Boston Medical and Surgical Journal*.

Treatment of Uterine Catarrh.

JOSEPH KAMMERER, M. D., Physician to the German Hospital and Dispensary (*The Am. Jour. of Obstetrics*), in the treatment of uterine catarrh, has abandoned the use of pulverized substances, ointments, and medicated crayons; the first, because they cannot be uniformly applied to the whole uterine cavity, and both the latter because they are generally expelled by uterine contractions immediately after their introduction. The local remedies to which he has given the preference may be classified under these heads:—1st. The actual cautery. 2d. Solid substances. 3d. Liquids.

1st. The *actual cautery* is superior to all other caustics in the treatment of large eroded surfaces, or soft spongy granulations existing on the vaginal portion, and chiefly so when the cervix is much enlarged and indurated. 2d. Of all the solid substances there is none now generally employed except *nitrate of silver*. He has restricted the employment of it to the affections of the vaginal portion and the cervical cavity, its application to the body being frequently followed by intense pain, and hæmorrhage difficult to control. 3d. *Liquids* have many advantages over all others, the principal one being the facility of graduating the strength of the solution according to the requirement of each individual case. The remedies in this form used by Dr. K. are chromic acid, Lugol's solution of iodine, and carbolic acid; sometimes sulphate of zinc and pyroligneous acid. The concentrated solution of chromic acid consists of chromic acid two parts, water one part, and is chiefly applicable where luxuriant granulations

or vegetations are to be destroyed. Lugol's solution, in its concentrated form, consists of iodine one part, iodide of potassium two parts, water four parts; its use is indicated in those cases in which catarrh is combined with hypertrophy of tissue. Carbolic acid dissolved in an equal part of water renders excellent service when applied to eroded surfaces with a tendency to hæmorrhage, and the same may be said of pyroligneous acid in its undiluted form. Sulphate of zinc, ten grs. to one oz. of water, is a valuable astringent in those cases of hypersecretion in which no erosions are visible.

Dr. K. adheres* to the use of the cylindrical glass speculum, both for examinations and operations called for in treating this affection.

For the purpose of dilating the uterine canal, a set of copper or German silver sounds—four in number—has been devised, which daily use has tested to his entire satisfaction. Each of them has a slight elevation, at a point situated two and a half inches from its extremity, and they are so graduated that, by their successive introduction, the uterine cavity can be dilated with the use of a moderate amount of force. These dilators are always introduced through the speculum, each one being gently rotated whilst it is pushed forward. Before applying the topical remedies, a few copious injections of warm water are made with the India-rubber long-nozzled syringe. The liquids are applied by means of the syringe, or a small brush.—*Medical Record.*

Hour-Glass Contractions of the Uterus: By ANDREW INGLIS, M. D., Professor of Midwifery, Aberdeen.

IN this case the head presented occipito-posteriorly, and therefore, though the pelvis was a good one, the labor was long and severe. The head at last suddenly took the requisite turn, and was then expelled with great violence, the body following with almost the same pain. After this, a thrill passed through the cord, it became flaccid, and was retracted an inch or two into the vagina. I immediately passed my hand over the abdomen, and found the body of the uterus high up and uncontracted. I then pressed it against the spine, the pressure causing the cord to be still more drawn in again. As the pressure did not send out any blood externally, I passed my hand along the cord into the uterus, which turned out to be divided into two cavities by a strong band of muscular constriction. The lower cavity consisted of almost the whole uterus quite uncontracted, while the upper consisted of only a small portion of the fundus about the size of an orange, and in a pretty firm condition. The placenta was large, and about five-sixths of it had separated from its attachment to the lower and flaccid part of the uterus; but it was detained by the remainder, which was adherent to the surface of the smaller cavity. The cord, which was unusually long, was

inserted into the very edge of the still adherent part of the placenta. On passing two fingers through the constriction, effective expulsive uterine action came on, beginning above and gradually extending down over the whole organ. The hand and placenta were both expelled, and the uterine contraction remained good and permanent. During this time no blood had as yet appeared externally. A napkin was put below the patient, and about half an hour after it was found to be a little soiled but to a much less extent than is usually seen during the first half-hour after delivery. Her recovery was normal, with this peculiarity, that she lost much less discharge than on any previous occasion. If we except the absence of hæmorrhage from the uncontracted uterus, we may consider this case in all its concomitants as an ordinary sample of hour-glass contraction, and, had traction been made on the cord, or had pressure been applied to the fundus uteri in the direction of the axis of the pelvis, there is no doubt that the small, hard, upper segment of the uterus would have been projected through the relaxed lower one, and inversion would have taken place in the manner described by Dr. Matthews Duncan (*Edinburgh Medical Journal*, May, 1867).

In a paper on inversion of the uterus (*Edinburgh Medical Journal*, July, 1867), I pointed out a combination of facts regarding occipito-posterior presentations, which seemed to me more than mere coincidences. In it I referred to fifteen cases of violent projective expulsion of the child, two of hour-glass contraction, and seven of inversion of the uterus, all of which, I had been able to ascertain, had been preceded by rotation of the head from the occipito-posterior to occipito-anterior position, and that I had up till that time not been able to hear of a case where any of these three accidents had not been so prefaced. Since then I have repeatedly seen more or less violent projection follow such rotation, and have also met with two other cases of hour-glass contraction after the head had taken such a course.

The theory I then suggested not without hesitation, I feel now inclined to assert more strongly, that, if the rubbing of the fingers round the inside of the cervix produces increased relaxation of the cervical region of the uterus, followed in time by increased expulsive action, the rubbing of the head in turning from the one position to the other may be expected to produce the same effects in a more marked degree. Moreover, after such rotation, the head becomes suddenly free, so that violent expulsion may succeed in emptying the uterus too suddenly, and thus increase the tendency to partial and irregular uterine contraction.

In conclusion, occipito-posterior presentations are tolerably normal occurrences, while true hour-glass contraction and inversion of the uterus are fortunately rare accidents, and it is a good thing to be aware that such presentations may be followed by these two accidents, so that the former of them may be promptly treated, while the latter may be easily prevented.—*Medical Press and Circular*.

On Sea-Tangle Tents.—By Dr. J. BRAXTON HICKS, F. R. S., Physician-Accoucheur, and Lecturer on Midwifery at Guy's Hospital, etc.

Of all the materials used for dilating the cervix uteri none are so cleanly and efficient as sea-tangle. If it is required to dilate the part to a considerable size it will be necessary to combine three or more tents, as the stem of the alga does not exceed a certain size.

I have found that they distend to about three times their original diameter, and that in an ordinary state of the secretions they reach their full distension in about fifteen hours; of course some variation will be found in this respect, especially between the different sizes, for the larger they are, the longer the time occupied for them to become wet in their interior, and therefore, generally speaking, the large bundles produce their effect quicker than if made of one piece of an equal diameter to the combined. These two points are important to bear in mind, because where we have to dilate the cervix to a considerable size, and we require to follow in succession, it is best to introduce the next sized tent as soon as the previous one has attained its full dilation. To leave it in beyond that time not only delays the operation uselessly, but adds much to the chances of uterine irritation. We must therefore have at hand a series of three for general purposes. For instance, when we wish to dilate the cervix in order to pass the finger in easily into the cavity, supposing we begin with one of one-eighth inch diameter; the next size should be nearly three-eighths of an inch, and the last (if another be required) should be nearly one inch diameter; as this would expand to nearly three inches at its fullest, it would not be requisite to allow it to remain in—unless in a case of pregnancy or imperfect miscarriage, where we want the fullest expansion—so long as to its complete expansion, say for ten hours. Where slight dilatation only is required then one is sufficient, and it should be removed in twenty or twenty-four hours at the longest. For dilating further, we may group the smaller bundles in any numbers we like, but it will seldom be required to go beyond an inch diameter for the last one. If we wish the tents to be more rapid, then it is best to soak them in cold water a short time before introduction.

The purposes to which they can be applied for obstetric purposes are numerous. They can be employed to dilate the smallest os and cervix uteri, either alone or in preparation for the hysterotome; they can for this purpose be made as small as required. In the case of traumatic closure of the os uteri, I have employed it with complete relief. In closures of the vagina from injury, also where the opening is reduced to a pin-hole, they may be employed to dilate up the stricture, preparatory to some more radical operation, or in some cases they may be employed entirely. The effect of the latter plan, however well it may succeed at the

first, is liable to pass off, and the contraction to resume its sway. I have found that the bistoury lightly drawn over the contraction, in numerous places, attended by much more satisfactory results ultimately. After operation for opening either vagina or os uteri, these tents may be employed from time to time to prevent the closure recurring. They may be employed to dilate the cervix to a size sufficient to permit us to explore the interior of cervix or the body of the uterus, in cases where polypus is suspected, or where the remnants of an imperfect abortion is supposed to exist. For the same purpose they are of great value to permit us to diagnose between polypus and fibroid tumor of the uterus, where the hæmorrhage is so great as to require interference.

In cases of flexion of uterus they will assist to straighten out the canal of the cervix, and for a time relieve the patient of the dysmenorrhœa which frequently accompanies it.

Again, in cases of dysmenorrhœa and sterility in married women from contraction of cervix, they can be with great advantage used, because it is clear if the sterility be owing to the occlusion of the cervix, then its expansion should be attended by immediate relief; otherwise we may conclude that other causes exist which give rise to these states, and if after this dilation the patient conceive, then a permanent cure results. In the single woman, however, the effects are less permanent, and in cases of severe obstruction will be frequently the only means of giving anything like permanent relief.

In some cases, as in malignant disease of cervix where the resistance is considerable, I have employed this substance to dilate, in order to deliver prematurely. These cases however are rare where much resistance exists, and in general it will be better to employ a softer material, as sponge tent, or elastic dilating bag, because they are less likely to scratch and abrade by their extremities than the more rigid sea-tangle tents.

They can be introduced into the cervix in various ways.

First, they may be introduced by a long pair of forceps. The patient being placed on her left side, the forefinger of the left hand, or still better, two fingers, if possible, are to be passed to the os uteri. The tent, held by the forceps, is carried along the finger to the os, into which it is introduced. The handle of the forceps should be then brought well against the perineum, so as to throw the tent into the axis of the uterus (in cases of normal position) and very gently pressed forward; after it has passed in nearly its whole length, the forceps should be detached, and the forefinger pressed gently against the end of the tent to keep it *in situ*. In order to retain it there, it is well to pass a plug of sponge with a tape tied round it so as nearly to fill the vagina. It is well to see the urethra is not pressed on, or retention of the urine might ensue, causing trouble and alarm. In multiparæ there is no trouble in employing this plan, but in some, particularly in virgins, there is much difficulty in introducing the tent,

in consequence of the rigidity and drawing up of the perineum. Besides, unless the serrations of the forceps are carefully rounded off at the edges, the vulva and vagina may be scratched, not only causing pain, but adding to the difficulty of introduction in consequence of the movements of the patient.

Another, and in my experience a better plan, in cases where the extremely small tents are not required, is to employ an elastic catheter with a stilet. A portion of the end of the catheter not quite so long as the tent should be cut off. This will leave the stilet protruding. On this the tabular tent should be passed, care being taken to see the stilet does not extend beyond the end of the tent. The string which is attached to the lower end of the tent being carried down by the side of the catheter, is held by the same hand. The arrangement is then introduced as an ordinary uterine sound, and when the tent is properly within the cervix, the stilet is withdrawn, thereby leaving the tent in the cervix. The finger which is in the vagina should be placed on the lower end of the tent to prevent it sliding out, and the sponge introduced as usual. A very convenient little instrument based on this principle has been made by Messrs. Weiss.

There is another mode which will be convenient in some cases, namely, to pass a speculum. Having introduced the tent into the cervix as far as possible by a forceps, the speculum can be withdrawn carefully. A finger is then passed up to the tent, and gentle pressure being made the tent slides in. This plan is good in cases where retro- or ante-flexion exists, but then of course it will be necessary when pressing the tent in with the finger to vary its direction, either forward or backward, according to the axis of the body of the uterus. In these cases the tent is ultimately placed in the transverse diameter of the vagina. In cases where the inner cervix will not permit the tent to pass, I have managed to do so slowly, by lodging the lower end against the fold in the posterior wall of the vagina, and then plugging that canal as usual. The little irritation produced by this has caused the levator ani to act, so that a gentle pressure is exerted for some time against the inner os, which has ultimately yielded. For the larger groups of tents, it will be found that the forceps will introduce them most readily; for in most of the cases where we wish to use large tents, the vagina is so well relaxed, difficulty is rare.

It is very important in order to effective dilatation that the tent should pass the inner os in all cases where the cavity of the uterus is to be explored. Tents of all kinds may fail in this particular, for two reasons: one because they may not have been introduced so far; and another, because they slip out. This is particularly the case with the sea-tangle tents, but as they can be made smaller than any other kinds, there is no reason why, if one will not pass, a smaller should not be tried.

In conclusion I may point out the special advantages of tents made of sea-weed.

1st. They can be made of any size, particularly much smaller than sponge tents.

2d. They have more distending power. The rigidity of the inner os uteri is sometimes so great that even these tents are distinctly marked by it; but the sponge tents not at all unfrequently are unequal to produce any marked impression on the constriction.

3d. They do not retain the secretions so as to produce so much offensiveness, consequently there is less risk of irritation locally or generally.

4th. By their greater rigidity they can be more readily applied, especially in a tortuous canal.

They have, however, some disadvantages:

Their rigidity makes them not so suitable in cases where the uterus is readily bleeding, or very tender; nor in cases where the os is somewhat dilated by a polypus or growth distending it. Here a sponge tent is best, unless the os and cervix are very rigid.

Their great distensive force makes them less acceptable where the uterus is very irritable.

They should be in all cases so made that no sharp edge be noticeable. In the tubular tents this is a point liable to be overlooked.

And for the dilatation of the os uteri in a natural state for purposes of induction of premature labor these tents are not by any means so suitable as the sponge tents, or as the India-rubber bags.

With these exceptions, in cleanliness, certainty of action, ease of introduction, and minuteness, they are certainly not equalled by any other material at present in use.—*Practitioner*.—*Braithwaite's Retrospect*.

Vaginismus.

DR. TILT protested against the necessity of using the knife or scissors in this comparatively common condition. He places the patient under chloroform, separates the two thumbs which are back to back in the vagina, and keeps the vagina distended for five minutes. He then introduces a large metal bougie, and keeps it in by a T bandage for several days.—*Med. Press and Circular*.

QUARTERLY RECORD OF OPHTHALMIC AND AURAL SURGERY.

Collated by W. S. MITCHELL, M. D., Prof. of Ophthalmic and Aural Medicine and Surgery, N. O. School of Medicine.

Case of Herpes Cornea with Herpes Zoster, Successfully Treated with Arsenic.—By C. CURRIE RITCHIE, M. B. Manchester.

HENRY F., aged 9, was brought to me on April 7th, 1869, on account of a "breaking out" on his skin, which was said to have appeared about three weeks previously, after scarlet fever. He was small for his age, and somewhat strumous in appearance; he presented a well-marked example of herpes zoster, the eruption being rather plentifully diffused over the side of the nose, cheek, chin, neck and trunk on the left side. I observed that he was also suffering from phlyctenular kerato-conjunctivitis of the same side, the vesicles surrounding the lower part of the cornea like a row of pearls: there was but little injection or haziness of the cornea. On inquiry, I found that the boy had complained of his eye being painful and "watering" about a fortnight before, but little attention had been paid to it. I prescribed two-drop doses of liquor arsenicalis with quinine and iron, three times a day, after regulating the bowels, and ordered generous diet, with plenty of open-air exercise; the eye to be bathed occasionally with a weak alum collyrium. Under this mode of treatment, the cutaneous eruption rapidly disappeared, and simultaneously the eye got well, no trace of phlyctenulæ remaining at the end of three weeks. I saw the patient lately, and there has hitherto been no relapse.

This case seems to me to support the theory of Stellwag von Carion, as to the origin of phlyctenular ophthalmia, which he considers a herpetic eruption of the cornea and conjunctiva; in fact, a neurosis of the ciliary nerves. It also confirms the observations of Mr. Oglesby, of Leeds, as embodied in his interesting paper in the current number of the *Practitioner*.—*British Med. Journal*.

Case of Cyst within the Eye.—By C. K. FISKE, Esq.

THE following account of a cyst within the eye, of very unusual occurrence, will be of interest to the readers of *The Lancet*.

Mr. E. P——, of Hillsboro', County of Albert, N. B., aged forty-six, called on me in the winter of 1862-3 for advice in regard to his left eye which had been irritable and painful for several weeks, and was fast becoming blind. On hastily examining the eye, I at once discovered what I thought to be the lens dislocated, and lying in the anterior chamber directly in front of the pupil, nearly covering that aperture, leaving a crescent-

shaped portion of it open in the upper part, through which there was imperfect vision. I immediately told my patient that the lens was dislocated, when he informed me that he had that day consulted Dr. Tyrrell (son of the late ophthalmic surgeon of that name), who gave the same opinion. At a later hour in the day the patient called for a more careful examination of the case, when I found the crystalline lens quite healthy, and in its natural position. The expansion of the pupil under the influence of atropia enabled the patient to see distinctly enough to read fine print at the same focal distance as with the right eye, and I found the object in the anterior chamber to be a cyst attached to the lower ciliary margin of the iris. It being a rather anomalous case, I proposed a consultation with Dr. Tyrrell, which was readily granted, and he agreed with me in my diagnosis. We then decided to remove as much of the cyst from the eye as practicable through a small opening in the cornea, and accordingly Dr. Tyrrell made a slight cut with a cataract-knife and with a small hook drew out some shreds of the cyst, and cut them off with scissors. The wound healed in a day or two, and the eye assumed a natural and healthy appearance, with good vision.

On further inquiry into the history of the case, I learned that forty years previously, when a boy six years of age, the patient had received a wound precisely in the locality of the attachment of the cyst with a sharp-pointed dart whilst at play, which caused much irritation for several days, after which there was no more trouble with the eye till forty years later, and a few weeks before seeking my advice.

On the 20th of the following May the patient was in town again with the cyst refilled, the eye irritable, and sight obscured. The semi-transparent body in the anterior chamber had very much the appearance of a hydatid, with its proboscis turned downwards, with the exception of being attached to the old cicatrix of the wound, while the proboscis of a living cysticercus is so placed by gravitation. At this time I contented myself with only puncturing the cyst with a cataract needle, and allowing it to collapse, when the eye assumed its natural appearance, and the pain and intolerance of light passed off. The eye remained comfortable till the following September, when the cyst again filled up, giving pain and indistinct vision as before.

On the 3d of September I removed the whole of the cyst through a small puncture in the cornea by means of a minute caula forceps. This gave great relief, and promised to be more effectual than anything done before; and, in fact, there was but little trouble with the eye till three years later, September 1866, when it again became very painful. Puncture of the cornea and cyst gave relief, but for a few days at a time.

There came on great pain in the eye and brow, and in the latter part of October the iris and lower portion of the cornea became involved with what had been the base of the cyst, and vision

was quite extinct; the patient also had lost much flesh, and had not been able to attend to business. I then advised excision of that portion of the eye diseased; in fact, the whole of the cornea, iris and lens.

In a few weeks the patient returned in great distress, determined to submit to excision of the whole eye, if necessary, rather than suffer longer.

On the 24th November I placed him under the influence of chloroform, and removed nearly the anterior third of the globe, with great relief to the patient; and in a few weeks he was able to attend to business with comfort, having gained thirty pounds of flesh in the mean time. In the following spring he was fitted with an artificial eye, and his health remains good at the present date.

This case seems analogous to one reported by Mr. James Dixon, F. R. C. S., and first seen and treated by Mr. Dalrymple, which was frequently under surgical treatment from 1846 till June 1856, and may have required further treatment subsequently. Both were caused by punctured wounds near the junction of the cornea and sclerotica, penetrating to the ciliary margin of the iris; and both became troublesome after many years of rest. The morbid action in one case was set up forty years after the receipt of the wound, and in the other case twelve years. In both the cornea remained remarkably transparent through much pain and irritation and many operations for evacuating the cyst. Mr. Dixon speaks of his case as unlike anything he had met with in his practice, or seen recorded as occurring in that of others.—*The Lancet*.

St. John, New Brunswick, Aug. 1869.

Melanotic Sarcoma of the Ciliary Body, Protruding into the Interior Chamber; Enucleation of the Eyeball: (Under the care of MR. SOELBERG WELLS), Royal London Ophthalmic Hospital, Moorfields.

MRS. R.—, aged thirty-nine, applied at the above hospital on March 12th, 1869. The patient, who is of a very dark complexion, looked fairly well, and had always been in good health till 1865, when she was laid up with typhus fever. Twelve months after this, she noticed in the right eye a small dark spot, about the size of a pin's head, in front of the inner side of the iris. The sight, which had been previously perfectly good, now gradually began to fail. She had no pain in the eye till about six weeks before admission, when it was severe for two or three days, "like a violent headache," and then ceased.

On admission, the right eye presented the following condition: The intraocular tension was somewhat increased (T. 1); the

field of vision was complete; vision of letters of Jaeger 18. There was no general injection of the eyeball, but large veins were seen about the equatorial region. The cornea was clear; the anterior chamber was good, except at its inner third, where a dark-brown growth lay in contact with the cornea. The iris was darker than its fellow, and marked on the outer side by dark-brown linear patches; its inner third was pushed forward, and occupied, except a narrow bridge of pupillary margin, by a dark-brown roundish tumor, the greater part of which was behind the iris, and encroached on the pupil so as to occupy about its inner half. The anterior part of the tumor had bulged out and partly destroyed the structure of the iris. The growth was about the size of a split pea. The lens was pushed a little back, was hazy, and marked by strong striæ. The details of the fundus were indistinct.

As there could be no doubt as to the nature of the disease and the advisability of the removal of the eyeball, the necessity for the operation was urged upon the patient; and on March 16th Mr. Wells extirpated the eye.

Mr. Bowater Vernon examined the eyeball, and found that the tumor sprang from the ciliary body only, the choroid being quite intact, as also the iris, which had only been pushed forward and stretched by the growth. The latter had also impinged and pressed upon (indented) the inner margin of the lens. On a section of the tumor, it is found to be made up of alternate layers of deep black and ashy-grey fibrous material, very firm, and under the microscope it is seen to contain large, irregular masses of black pigment, without any definite arrangement. Also, a large quantity of well-formed, nucleated cells; in some instances, the cells are caudated and spindle-shaped. The large amount of pigment interferes greatly with a very detailed microscopic examination. The color of the iris was lost, its tissue somewhat atrophied, and its anterior surface mottled with several irregular patches of black pigment, which was not contained in cells, but consisted merely of an aggregation of black granules without any definite arrangement.

Clinical remarks.—Mr. Wells observed, that in all cases of melanotic sarcoma of the eyeball it is of the greatest importance to remove the latter at the earliest possible period, as soon as the true character of the disease is recognised, and before it has time to extend to the neighboring tissues, or to give rise to metastatic affections; for the intraocular growth is the primary disease, and the metastatic tumors are secondary; these occur chiefly in the liver, lungs, brain, and kidney. The morbid growth may extend to the orbit by perforating the cornea or sclerotic; and the disease may also extend into the optic nerve, and thence to the brain. According to Virchow, the degree of malignancy of sarcomata varies with their stricture, those which contain small cells (quite irrespective of the shape of the cell) being far more

dangerous than those in which the cells are large. In extirpating the eyeball the optic nerve should be cut very far back, so that we may get, if possible, beyond the seat of the disease. If, on removal of the eye, the cut end of the optic nerve looks swollen and dark, or if the disease has extended into the orbit, the chloride-of-zinc paste should be applied.

Up to December, 1869, there has been no trace of the return of the disease in the orbit, nor any symptoms of metastatic tumors.—*Lancet*.

On the Ophthalmoscopic Signs of Spinal Disease.—By T. CLIFFORD ALLBUTT, M. A., M. D., F. L. S., etc., Physician to the Leeds Infirmary and Lecturer on the Practice of Medicine.

THE use of the ophthalmoscope as an aid in the diagnosis of encephalic disease is gaining ground quickly, and attention is now being given also to its indications in diseases of the spine.

It is on this latter subject that I propose to make a few remarks. I fear I have little to offer to the reader in the shape of positive knowledge, or, indeed, of strongly supported conjecture; but I think a review of the facts as they stand at present, though of little permanent value, may nevertheless so direct discussion and observation as to lead to the establishment of something definite. I am quite sure that in this way we shall arrive at facts which will be valuable in diagnosis, and which will have a remarkable value in pathology. In the meantime it would be, perhaps, an error to withhold my own observations from the printer because there is much which still perplexes me, and much more which is incapable of proof, if not of probable interpretation. In the present study, as in any other, it is easy to welcome new facts which will submit themselves to a favorite hypothesis; but if we resist this first temptation, and pursue our observations with industry and caution, we are presently made aware that the new facts are far more difficult of study than we had supposed, they turn out to be far less simple and uniform than at first they seemed, and they begin to refuse the shelter of the favorite hypothesis which appeared so convenient for them.

The facts I have to deal with here will be best discussed in the following order:

1st. Do disturbances of the optic nerve and retina commonly follow spinal mischief?

2d. If so, then what kind of disturbances are they? And

3d. What reason or reasons we can assign for their occurrence?

1st, then, are the accounts of disturbance of the inner eye secondary to spinal disturbance to be trusted? Of this there is little doubt: it is tolerably certain that disturbance of the optic

disc and its neighborhood is seen to follow disturbance of the spine with sufficient frequency and uniformity to establish the probability of casual relation between the two events.

I have myself examined, from this point of view, thirty well-marked cases of *spinal injury*, and in eight of these I found secondary disturbance within the eye. Of these cases, seventeen were severe injuries which proved fatal within a few weeks, and in none of these did changes appear in the eye; the remaining thirteen cases were of chronic spinal disease following accidents of less severity, and it was amongst these thirteen that I discovered the eight cases of sympathetic disorder in the eye. Of *acute myelitis* I have examined five cases, and in one only did eye disorder supervene. This remarkable case was of very long duration, and was followed by partial recovery; in it sympathetic disorder of the eye came on many weeks (twelve or thirteen weeks at least) after the subsidence of the acuter symptoms. The myelitis in all these five cases was in the lower dorsal or lumbar region. Of *chronic degenerations of the cord*, exclusive of locomotor ataxy, I have records of nine cases. In five of these marked changes in the eye appeared. In *locomotor ataxy* the occurrence of affection of the optic nerve is so well known that I think it scarcely worth while to sum up my notes of this disease. I wish now to make use of the three following conclusions in particular which my researches seem to indicate:—

1. That changes at the back of the eye do not infrequently follow spinal disease.

2. That these changes do not become established in the cases which run a short course, but they slowly supervene in the course of weeks or months in more chronic cases.

3. That in spinal disease arising from injury, the higher the seat of the injury the sooner are there changes in the eye. Of this last conclusion I have satisfied myself after a careful observation of well-marked cases. I have found that the optic changes follow injury of the spine more rapidly if, for example, the injury be in the upper cervical region than if it be in the lower cervical or in the upper dorsal region. One of the best-marked cases of eye disorder with spinal injury that has occurred in my own practice was in a man who had suffered an injury to the spine in the region of the atlas and third cervical vertebra. The injury was set up by a sudden twist of the head backwards and to the left. In him change at the back of the eye appeared very quickly and decisively. The patient is still living, but it was clear from the symptoms that the lower cervical and upper dorsal regions were unaffected.

Having seen, then, that there are changes in the eye symptomatic of spinal disease, our second inquiry is, of what kind are these changes? Confining ourselves to the optic nerve and the retina with their vessels, and omitting all reference to injection of the conjunctiva, or the state of the pupils, what kind of changes are

dependent upon disturbance of the spine? I find that they may be well classified under two heads:—(1) Simple or primary atrophy of the optic nerve, sometimes accompanied at first by that slight hyperæmia and inactive proliferation which make up the state I have called chronic neuritis. This sort of change I have never found as a result of spinal injuries, but I have often met with it in chronic degeneration of the cord and in locomotor ataxy. (2) A somewhat characteristic hyperæmic change which I have not seen in chronic degeneration or in locomotor ataxy, but in cases of injury to the spine only. The retinal arteries do not dilate, but become indistinguishable; while the veins begin to swell and become somewhat dark and tortuous. The disc then becomes uniformly reddened, and its borders are lost, the redness or pinkness commencing with increased fine vascularity at the inner border, and which thence invades the white centre and the rest, so that the disc is obscured or its situation known only by the convergence of the vessels. In many cases, rather than redness, I have observed a delicate pink—pink which sometimes passes into a daffodil color. In one case, in particular—a railway accident—which I examined in consultation with my friend and colleague, Mr. Teale, this daffodil color of the whole field was very curious; no disc was to be distinguished, but the dark vessels stood out in beautiful relief. The other eye presented the more common appearances of hyperæmia and serous effusion, with slight swelling. It is to be remarked that this state is generally or always of long duration; it passes very slowly up to its full development, and then shows a disposition to end in resolution rather than in atrophy. In those cases which I have been able to watch diligently for many months the pinkness seems slowly to have receded, leaving an indistinct but not very abnormal disc behind. Sometimes the sight suffers a good deal in these cases, sometimes but little or scarcely at all. I have never seen true optic neuritis with active proliferation as a sequel of spinal disease.

The third and most difficult injury now remains: What is the reason of the occurrence of these symptomatic changes—what are the processes which, following the changes in the spine and preceding the changes in the eye, link the two events together in the chain of causation? One answer has been lately offered to this question by a distinguished physiologist, Mr. Wharton Jones. His argument is, that when the cord is injured, the sympathetic nerve or its origins are involved; and that, as the sympathetic nerves govern blood-vessels and blood-vessels govern nutrition, therefore the changes in the nutrition of the eye are due to irritation of the sympathetic, which cuts off arterial blood from the optic nerve, or to the palsy of it, which deluges the nerve with blood. Mr. Jones, indeed, speaks as if dilatation of the arteries at and about the disc were a matter of direct observation. I can only say, after some experience with the ophthalmoscope in

cerebro-spinal diseases, that this phenomenon has hitherto escaped me. A really satisfactory explanation of the occurrence of spinal and ophthalmic disorders cannot, in truth, be given until a far greater number of observers have been at work, and until careful autopsies have been made in such cases, with minute examination of the nervous tracts and centres. Meanwhile no doubt we must deal more or less in conjecture. The objections to the sympathetic-nerve theory, however, are manifold. The theory is not a new one, and in my lectures on the ophthalmoscopic symptoms of cerebro-spinal diseases I have already pointed out objections which seem fatal to it. In the first place, to call up the sympathetic system is to call up too potent an agency for the pressing difficulty. Are we to suppose that the irritated sympathetic causes the destruction of all connected parts; or that it starves the optic nerve by preference, while it leaves all other parts in its district unaffected? Or can a palsied sympathetic be the ruin of the optic disc, when its effects are unseen in the pupil, unseen in the conjunctiva, unseen in the ear and cheek? Again, it is a matter of verified observation, in numerous cases in which there have been most obvious signs of a palsied sympathetic in the ear, face, and outer eye, that in these very cases the back of the eye has been found unchanged. Such is the teaching of Dr. Wm. Ogel's case read before the Medical and Chirurgical Society on the 23d March, 1869; and I have an equally instructive case under my own care at present. In this little boy, a blow upon the nape has set up "strumous" mischief in the cervical portion of the spinal column, with consequent palsy of the arms and legs. During the last few weeks, owing, no doubt, to a lateral extension of the mischief, the left sympathetic in the neck has also become involved, and we have the well-known signs in the left face—namely, narrowed palpebral aperture, injected conjunctiva, undilatable pupil, flushed cheek and ear, and temperature of the cheek ranging from 5° to 9° above the right cheek, except during a febrile access, when this difference ceases or is diminished. Now in this patient the symptoms of concurrent disorders of the optic nerve and retina were observed in both eyes many weeks before the affection of the cervical sympathetic occurred; the changes in the eye were of the second kind mentioned above—namely, hyperæmia with serous exudation; and there has been no change in the left disc, or in either disc, since the affection of the sympathetic.

Again, atrophy of the optic nerve, with or without chronic neuritis, is very different in its onset and in its course from the injected fundus; it shows a very different process, and it accompanies very different kinds of spinal disease; the presumption therefore is that one explanation will not serve for the two sets of phenomena. Moreover, the atrophy, sometimes with chronic neuritis, is commonly met with in locomotor ataxy, and in degenerative conditions of the cord like unto it; but the part of

the cord affected in those cases is often far away from the connexions of the cervical sympathetic; and we know, in addition, that while in locomotor ataxy the degeneration destroys the posterior roots, yet it invariably leaves their ganglia whole. These objections, not only taken together but also taken singly, are at least considerable, and in my opinion are fatal to a belief in the sympathetic nerve as the cause of those secondary disorders of the eye which we are discussing.

It is less easy to undertake to say what are the causes of disorder of the optic nerve and retina in spinal affections; I shall try, however, to find out in what direction the facts themselves seem to lie.

It is clear, first of all, that we have to do with two distinct kinds of consecutive disorder, and it is probable that they arise from distinct causes. Again, these changes are not peculiar to cases of spinal disease, but they are seen in encephalic disorders also; and, in default of evidence to the contrary, we must assume that their causation is identical or similar in the two cases. Now, this kind of hyperæmia, with serous exudation, when occurring in encephalic disorders, is, so far as my experience goes, very commonly associated with meningitis of the base; while atrophy or chronic neuritis is either not associated with meningitis, or, if associated with it, is clearly due to other causes—in particular, to disease of the encephalic vessels, to degeneration of the optic fibres or centres, to disseminate sclerosis, or to severance of the continuity of the encephalic optic fibres by pressure, local neuritis, and the like. Hence my former supposition, that the two kinds of change have different causes, is supported by my experience of their causation when dependent on encephalic conditions. Again, as I have said, this hyperæmic state seems to be less a destruction of the nerve than a protracted interference with its vascularity, and this state occurs rather with injuries of the spine than with chronic degenerations of the cord. In these latter cases, when any changes occur they appear not to be of the nature of a transient interference, but of an essential destruction. These facts seem to support the foregoing: injuries to the spine are very commonly followed by meningitis of a subacute character, while slow degenerations of the cord itself are either unattended by meningitis, or the meningitis is a mere local thickening not likely to spread.

In default of a series of autopsies, then, we seem to be led towards the conjecture that hyperæmia of the back of the eye, following injury to the spine, is probably dependent upon a greater or less extension of the meningeal irritation up to the base of the brain. Now, have we any reason to suppose that spinal meningitis does creep up into the encephalon? We have: for, setting aside the curious head symptoms such patients often present, here the actual demonstration of autopsy comes to aid us. It is tolerably well known to careful pathologists that

encephalic meningitis is a very common accompaniment of spinal meningitis. I am glad to be able to enlist Mr. Wharton Jones on my own side in this, who makes the same statement himself on the authorities of Ollivier and Abrombie. It is scarcely needful to point out that if this explanation of an ascending meningitis be the correct one, it accords with my observation, stated above, that, in general, the higher the injury to the spine the sooner the affection of the eye.

Finally, we have learnt, from our experience of encephalic diseases, to attribute atrophy of the discs to severance of the optic nerve-fibres, to sclerosis in patches, or to traveling degenerations, rather than to meningitis. Very commonly it is due to what, for brevity's sake, we may call Wallerism, from the well-known experiments of Waller upon the traveling degenerations of nerve-fibres. Now, as I have said, atrophy of the discs is seen, not in injuries of the spine, but in slow degeneration of the cord—in cases, that is, where meningitis is usually absent or inactive; and it is seen most frequently by far in that degeneration of the cord called sclerosis of the posterior columns.

Supposing, therefore, that atrophy of the disc in encephalic disease is due generally to traveling degeneration, this supposition, in the case of spinal optic atrophy also, is supported by the remarkable fact that it occurs especially with degeneration of that part of the cord—the posterior columns—which tends to travel towards the encephalon, and not towards the periphery. Thus we are led to conjecture that the optic atrophy is, in some obscure way, the result of the propagation of the destructive change upwards; and that in all cases of degeneration of the cord accompanied by atrophy of the optic nerves the degeneration includes the posterior columns, and climbs upward by means of these. Can we get any farther? Perhaps we may venture upon another step in the dark. If wasting of the posterior columns creeps upwards, it creeps up to the cerebellum. Now we know that diseases of the cerebellum are very commonly associated with atrophy of the optic nerves; and this, as one or two autopsies appear to show, seems frequently to be by means of the processus cerebelli and testes. It is certain, at any rate, that optic atrophy occurs not only with tumors of the cerebellum, but with mere wasting diseases of that organ; so that creeping degeneration, and not pressure alone, may be the agent of destruction.

Finally, I think it not unlikely that the curious tendency seen in some states of the nervous centres to sclerotic degeneration in patches may in many cases account for symptomatic nerve-atrophy. It may be that in these states the optic nerves, on account of the irascularity and rich connective tissues, are always among the first portions to suffer, and to suffer independently of the affection of other parts—independently, that is, of any mechanical or physiological connexion, and in virtue only of an affinity in structure.

There are sad gaps, I know only too well, in the reasonings; and gaps there must be until many careful autopsies have been made, and the parts microscopically examined from the present point of view. I am disposed to think, however, that the considerations I have ventured to place before the profession, though in many parts conjectural, are yet not without interest, and not without promise.—*Lancet*.

Leeds, Jan. 1870.

A Case of Aneurism of Internal Carotid in the Cavernous Sinus, Causing Paralysis of the Third, Fourth, Fifth, and Sixth Nerves: By JAMES ADAMS, F. R. C., Assistant-Surgeon to the London Hospital.

FREDERICK B——, aged fifty-six, a sign-writer, was first seen on the 23d of February, 1869. His right eye was completely closed, partly from paralysis of the levator palpebræ, and partly from œdema of the lids, the surfaces of which were red and superficially ulcerated. The cornea was hazy, and ulcerated in the centre; the conjunctiva and sclerotic were reddened, with some œdema of the subconjunctival tissue. Through the hazy cornea the pupil could just be made out; it was of moderate size, and quite immovable. Vision: R. = shadows of large objects.

L. = $\frac{20}{30}$, and J. 8 at 12''.

Fundus of right invisible; left normal. No movement could be produced in the right globe in any direction; either independently or consentaneously. The surface of the eye was absolutely insensible, and when irritated no movement of the lids followed; but when the conjunctiva of the left was touched, the lids of both eyes were forcibly closed. Tension, = —1. There was perfect anæsthesia of the right supra-orbital region, of the right side of the nose (both of the mucous and cutaneous surfaces), and *partial* anæsthesia of the right supra-maxillary region.

Six weeks before he came under observation, he suffered from giddiness and pain in the head, limited to a spot of the size of a half-crown in the right temporal region. After these symptoms had persisted for a few days, the right eyelid drooped, and the loss of motion of the globe and ulceration of the cornea quickly followed. He admitted having had primary syphilis in early life, but there was no evidence of any secondary or tertiary periods. He is the father of a healthy family.

He was put under a course of iodide of potassium, but no material alteration ensued. In the course of a few weeks an abscess formed in the orbit. It was opened, and discharged healthy pus, and healed.

About a month later he had general anasarca and bronchitis, with large quantities of albumen in the urine, and died on May 21st.

After some difficulty, I obtained permission from his friends to examine the head, which I did the day after his death, being assisted by Mr. Salt. The brain was softer than natural and there was a large quantity of fluid in the ventricles. Projecting from the right cavernous sinus was a smooth, soft tumor, about the size of a walnut, pushing the dura mater from the bone. Owing to the unfavorable conditions under which the examination was made, it was impossible to dissect out the sinus, so I removed the tumor by cutting as close to the bone as possible. It proved to be a sac containing laminated deposits of fibrin, those most external being firm and pale, those nearest the sinus dark and soft. There were several small patches of degeneration in the basilar artery.—*Lancet*.

Finsbury-circus, November, 1869.

Sudden Death from a Stab in the Eye and Wound of the Carotid Artery.

THE following unique case is recorded in the *Canada Medical Journal* for November. A man of color, named Richards, was passing along the streets of Toronto when he was attacked by one Kavanagh. In retaliation, he drew from his pocket a pair of scissors (he was a tailor) and thrust them in Kavanagh's face. The latter fell to the ground and immediately expired. A careful *post-mortem* examination revealed the fact that one blade of the scissors had passed in the right side of the left eyeball into the orbit, and then through the left side of the ethmoid bone, the orbital plate of the frontal bone, and the body of the sphenoid, into the right middle lobe of the brain. In its course it had divided the cavernous sinus and carotid artery, and a large quantity of blood had been extravasated under the base of the brain.—*British Medical Journal*.

ANATOMY, PHYSIOLOGY AND THERAPEUTICS.

Obstinate Gastric Irritability, Treated by Hypodermic Injections.—

By JOHN HARRISSON, Esq., Congleton.

JAMES MITCHEL, aged 19, suffered during three years from severe attacks of vomiting, which were induced by all kinds of solid food, and by all liquids. Pure water was not always rejected. Sometimes, and sometimes only, a few spoonfuls of beef-tea, milk or muttoubroth, would not cause sickness. He was obliged to leave the table several times during each meal, and

lost many dinners daily in his attempts to retain one. Excessive weakness, depression of spirits, and, pallor were the obvious results of this disease. He was treated by me, and by various other medical men, during his illness, without any benefit, and was for six weeks an in-patient of a large hospital, where great care was bestowed upon his diet and treatment, without avail. He was fed entirely upon milk, and milk with lime-water; a teaspoonful only was given each half-hour; but he did not improve.

The patient came under my notice again in June, 1868. I had just then successfully treated a most obstinate case of vomiting consequent on pregnancy, by the hypodermic method, (*Vide* British Medical Journal, August 23d, 1868) and resolved to try the same plan with this patient. At first, one-fifth of a grain of morphia was injected; afterwards, the dose was gradually increased to one grain. At the end of a fortnight the strength of the injection was gradually diminished, and was finally discontinued in six weeks from the date of the first injection. During the period of treatment, the patient steadily improved in every respect, the vomiting ceased, he gained flesh and was soon able to work hard as a farm-labourer. Once or twice during the past year, nausea and slight sickness have been felt by him, but ordinary remedies have easily removed these threatening symptoms. *British Med. Journal.*

The Morbid Anatomy of Croup.—By GEORGE JOHNSON, M. D., F. R. C. P., Professor of Medicine in King's College; Physician to King's College Hospital.

I HAVE gradually arrived at the conclusion that English writers on croup have confounded two very different diseases. They describe croup as an inflammatory non contagious disease, resulting usually from exposure to cold, more common in northern latitudes and in cold seasons than in the south than in the summer, and apt to recur year after year in the same subject, although usually in a milder form. The disease is to be treated by warm baths, warm fomentation to the throat, steam inhalation, and nauseating doses of ipecacuanha or anatomy. Some authors advise mercury to be given. If the disease prove fatal, false membranes are described as occurring in the larynx, and often extending into the trachea and bronchi. In this account we have the history, the symptoms, and the treatment of acute catarrhal laryngitis; but the morbid antimony is that of diphtheria, a disease which has an entirely different history. The first English writer who described the false membranes as the distinctive feature of croup was Dr. Home, whose pamphlet "On the Nature, Cause, and Cure of Croup" was published in 1765. He

gives a brief history of the first two cases in which he observed this striking anatomical change. The first case was that of a boy, aged seven, who died after a few days' illness with symptoms of croup. Four days after the death of the boy, his sister, aged five, was seized with similar symptoms, and died suffocated on the third day. In both cases, false membranes were found in the larynx and trachea. The fact of two cases occurring in quick succession in the same family would alone render it probable that the disease was diphtheria, and not inflammatory croup. The probability is still further increased by the fact that in the second case the tonsils were swollen and covered with mucus, and there was some difficulty in swallowing. From that time to this there has been a tradition amongst English writers that an exudation of false membrane is the usual result of inflammatory croup in children. Bretonneau refers to Dr. Holme's cases of croup as examples of "malignant angina," which is one of his symptoms for diphtheria. (*Memoirs on Diphtheria*, New Sydenham Society, p. 107).

Dr. Cheyne's work "On the Pathology of the Membrane of Larynx and Bronchi," published in 1809, has been a great authority on the subject of croup. That he met with cases of diphtheria is evident, from his statement that he had seen several children whom he would have supposed to be suffering from the second stage of croup, but in whom, upon examination, he discovered what he calls "sloughs on the tonsils and uvula." The children died; and, although the bodies were not examined, he expressed his belief that, since the cough, voice, and breathing were those of the second stage of croup, "the larynx would have been found lined as the fauces were."

It is only during the last few years that diphtheria has been recognized amongst English practitioners as a distinct specific, infectious and sometimes epidemic, disease. Meanwhile, the French pathologists Bretonneau, Trousseau, etc., have given a complete history of diphtheria. Croup they describe as a disease characterized by an exudation of false membrane, forming a part of the history of diphtheria, and quite distinct from catarrhal laryngitis, which Bretonneau calls "stridulous angina" and "tracheitis," and Guersant designates "stridulous laryngitis, or false croup." There is here no question of laryngismus stridulus, or spasmodic croup. (See the *Memoirs on Diphtheria*, translated by the New Sydenham Society). Guersant remarks that the cough is loud and sonorous in cases of stridulous laryngitis; while in membranous laryngitis or diphtheria it is hoarse and stifled by the exudation. The voice, too, in this latter affection is not simply hoarse, but also suppressed.

My attention was first specially directed to this subject by finding no false membranes in the air-passages after death from acute catarrhal laryngitis in children. Mr. Porter, in his book

on the *Larynx*, mentions three cases of fatal croup without false membranes in children, aged respectively five, four and one-half, and two and one-half years. Sir Thomas Watson says "there are a few cases in which this adventitious membrane is not formed at all; the inner surface of the windpipe is seen to be merely reddened and tumid, and covered with viscid mucus; or, perhaps, with a shred or two of concrete albumen here and there." Then I have occasionally met with cases of supposed inflammatory croup in which I found during life diphtheritic exudation on the tonsils, soft palate, or pharynx. With these appearances were associated other indications of the true nature of the disease; perhaps evidence of infection, discharge from the nostrils, swelling of the glands under the jaw, albumen in the urine. In some cases, the evidence is less complete. Most writers on diphtheria describe cases (and I have seen some) in which there is either no exudation visible on the fauces, or there is a scanty secretion, which soon disappears while the exudation within the air-passages increases and destroys life. And, again, there are other cases in which the diphtheritic exudation begins in the air-passages, and never extends to the fauces. In such cases, the diagnosis may sometimes be difficult. (See Trousseau's *Clinical Medicine*, vol. ii, p. 486-7, New Sydenham Society).

Our present knowledge of this subject warrants us, I think, in stating positively that two distinct diseases have been confounded under the name of croup by many English writers. 1. Acute catarrhal laryngitis. This, in children, is inflammatory croup; and, whether it occur in children or in adults, the only structural change in the larynx and trachea after death is congestion and swelling; sometimes superficial abrasion of the mucous membrane, with mucous or puriform exudation on the surface, but no tenacious false membrane. 2. Diphtheritic croup, which, whether it occurs in the child or in the adult, is attended with the formation of a more or less abundant and tenacious false membrane in the air-passages. The exudation of false membrane depends not upon the age of the patient or the intensity of the inflammation, but upon the specific character of the disease; so that the presence of the false membrane after death would suffice, in a doubtful case, to determine the nature of the malady.

One circumstance that has helped to perpetuate error with regard to the morbid anatomy of croup has been the fact that inflammatory croup is a far less fatal disease than diphtheritic croup. Most cases of the former recover when early and judiciously treated, while of the latter by far the greater number die. Therefore, after death with croupy symptoms, false membranes are more frequently present than absent. Both Home and Cheyne report several cases of recovery which were nearly certainly cases of simple laryngitis or inflammatory croup.

The practical importance of distinguishing acute catarrhal laryngitis or inflammatory croup from diphtheritic disease of the

air-passages is manifest, when we consider that the treatment which usually puts a stop to the former disease is unsuitable, and even injurious in case of diphtheria, a disease which requires an entirely different method of treatment, and in which local remedies are especially valuable.—*British Medical Journal*.

MEDICAL NEWS.

American Medical Association.

THE Twenty-first Annual Session will be held in Washington, D. C., May 3, 1870, at 11, A. M. The following Committees are expected to report:

On Cultivation of the Cinchona Tree. Dr. Lemuel J. Deal, Pennsylvania, Chairman.

On the Cryptogamic Origin of Disease, with special reference to recent microscopic investigations on that subject. Dr. Edward Curtis, U. S. A., Chairman.

On the Doctrine of Force, Physical and Vital. Dr. John Waters, Missouri, Chairman.

On Variola. Dr. Joseph Jones, Louisiana, Chairman.

On the Relative advantages of Syme's and Pirogoff's mode of Amputating at the Ankle. Dr. G. A. Otis, U. S. A., Chairman.

On a National Medical School. Dr. F. G. Smith, Pennsylvania, Chairman.

On Commissioners to aid in Trials involving Scientific Testimony. Dr. John Ordronaux, N. Y., Chairman.

On the Climatology and Epidemics of—Maine, Dr. J. C. Weston; New Hampshire, Dr. P. A. Stackpole; Vermont, Dr. Henry Janes; Massachusetts, Dr. H. I. Bowditch; Rhode Island, Dr. C. W. Parsons; Connecticut, Dr. E. K. Hunt; New York, Dr. W. F. Thoms; New Jersey, Dr. Ezra M. Hunt; Pennsylvania, Dr. D. F. Condie; Maryland, Dr. O. S. Mahon; Georgia, Dr. Juriah Harriss; Missouri, Dr. Geo. Engleman; Alabama, Dr. R. F. Michel; Texas, Dr. T. J. Heard; Illinois, Dr. R. C. Hamil; Indiana, Dr. J. F. Hibberd; District of Columbia, Dr. T. Antisell; Iowa, Dr. J. C. Hughes; Michigan, Dr. Abm. Sager; Ohio, Dr. T. L. Neal; California, Dr. F. W. Hatch; Tennessee, Dr. B. W. Avent; West Virginia, Dr. E. A. Hildreth; Minnesota, Dr. Samuel Willey; Virginia, Dr. W. O. Owen; Delaware, Dr. L. B. Bush; Arkansas, Dr. G. W. Lawrence; Mississippi, Dr. W. Compton; Louisiana, Dr. L. T. Pim; Wisconsin, Dr. J. K. Bartlett; Kentucky, J. D. Jackson.

On Veterinary Colleges. Dr. Thomas Antisell, D. C. Chairman.

On Medical Ethics. Dr. Lewis A. Sayre, N. Y., Chairman.

On American Medical Necrology. Dr. C. C. Cox, Maryland, Chairman.

To Memorialize State Medical Societies. Dr. N. S. Davis, Illinois, Chairman.

On Nomenclature of Diseases. Dr. F. G. Smith, Pennsylvania, Chairman.

On Medical Education. Dr. T. G. Richardson, Louisiana, Chairman.

On Medical Literature. Dr. J. J. Woodward, U. S. A., Chairman.

On Prize Essays. Dr. Grafton Tyler, D. C., Chairman.

Voluntary communications will be presented by Dr. John Curwen, Pennsylvania—On the Proper Treatment of the Insane.

Dr. Nathan Allen, Massachusetts—On the Physiological Laws of Human Increase.

Secretaries of all medical organizations are requested to forward lists of their Delegates as soon as elected, to the Permanent Secretary.

Any respectable physician who may desire to attend, but cannot do so as a delegate, may be made a *member by invitation*, upon the recommendation of the Committee of Arrangements.

W. B. ATKINSON.

Medical Association of New Orleans.

At the regular Annual Meeting, held on the second Wednesday of January, the following officers were elected to serve for the current year:

Warren Stone, M. D., President; Samuel Logan, M. D., 1st Vice President; Charles Sabourin, M. D., 2d Vice President; C. J. Bickham, M. D., 3d Vice President; C. H. Tibault, M. D., Recording Secretary; J. W. Caldwell, M. D., Corresponding Secretary; F. Schumacker, M. D., Treasurer; A. Lewis, M. D., E. D. Beach, M. D., A. F. Axon, M. D., and E. Adler, M. D., Members of Council.

The increased interest evinced in the meetings of this body and its thriving condition will no doubt increase its usefulness. The list of its members increases at each session.

CLINICAL RECORD.

Selections from Surgical Clinic at the Charity Hospital, Service of
SAMUEL LOGAN, M. D., Professor of Surgery, N. O. School of
Medicine, Session of 1869-70: By J. F. JOOR, M. D.

CASE I.—Fracture of Neck of Femur—Union.

MICHAEL D., laborer; native of Ireland; aged forty; was admitted October 13, 1869. He had been pitched from a cart the day before, falling heavily on the left hip. On examination, a fracture of the neck of the femur was discovered; in all probability extra-capsular. Professor L. ordered Liston's long splint to be applied, stating that he judged the fracture to be extra-capsular from the direction of the force producing the accident, and therefore there was a chance of obtaining bony union, especially as the patient's general health was good, and his age not too great. He dwelt particularly on the fact that fractures from *direct* violence, in the direction of the axis of the neck were usually extra-capsular, and involving the trochanter, while those produced by *indirect* violence were usually within the capsule. The patient was kept quiet in bed, and supplied with the most nourishing diet the hospital afforded. Under this treatment union at length took place, with some ankylosis of the joint. This was evidently due to the excess of callus thrown out, together with the splitting of the great trochanter, and the wide separation of the fragments by the neck of the bone, at the time of the accident. Prof. L. remarked that when the fracture was the result of *direct* violence, this separation of the fragments was almost certain to occur. Patient was discharged in February. Notwithstanding the limited motion in the joint, he was able to walk very well by twisting the pelvis on the opposite acetabulum and lumbar vertebræ.

CASE II.—Gunshot—Fracture of Femur—Union.

Wm. W., aged twenty-four; native of Illinois; "speculator," received two pistol-shots on the night of Nov. 29, and was immediately brought to the hospital. One ball entered the inner side of the thigh, in its lower third, and escaped through the upper part of the popliteal space, fortunately missing both artery and nerve. The other fractured the femur about the junction of the middle and lower thirds. Prof. L. immediately had the limb placed on the double inclined plane, with the knee somewhat flexed. The wounds were dressed with carbolic oil, and anodynes administered, as the patient was very restless. Under this treatment the external wounds did well, but it was found impossible to keep the fragments in apposition and at rest. Consequently, as soon as all inflammatory symptoms had subsided, and the sup-

puration began to diminish, the limb was cased in a starched bandage, reaching from the toes to the hip. Holes were cut in this, opposite the wounds, to allow of their being dressed. In a few days, however, he had a slight attack of erysipelas, rendering it necessary to remove the bandage. After a week or two, however, it was again applied, and the patient was allowed to go about on crutches. The wounds now healed, the sore consolidated and the patient was discharged on the 8th of January, with scarcely three-fourths of an inch shortening.

CASE III.—*Osteo-cysto-sarcoma of Lower Jaw ; Excision of nearly half of the Bone ; Recovery.*

Mary A., colored ; aged thirty-two ; native of Florida ; was admitted Nov. 26, 1869. She states that about four years ago, she noticed a small, painless swelling in the gum, on the outer side of the last molar tooth on the right side. This increased in size very gradually for two years, and then began to grow more rapidly, at length attaining the size of a large orange. In March, 1869, she began to suffer from a severe pain in the tumor, which she compares to that of tooth-ache ; arising doubtless from pressure on the dental nerves. This was aggravated by exposure to cold. She continued to suffer thus at intervals for about two months. During the summer she was free from pain, but in the autumn it returned with increased violence, and she at length was brought to Prof. L. by Dr. Charles McKinnon of Florida.

The tumor extended from the angle of the jaw to the first bicuspid tooth. Most of it was very hard and evidently bony ; but one or two spots were soft, without, however, giving any sense of fluctuation. It was distinctly circumscribed, the bone seeming healthy up to the very margin of the tumor. The skin over it was loose and of natural appearance, with the exception of one or two slight superficial ulcerations. It was neither tender to the touch, nor vascular. All the teeth in that part of the jaw had disappeared. The mucous membrane covering the part of the tumor inside the mouth, exhibited two or three small points of ulceration, which the patient said had discharged at different times small quantities of a watery fluid. Patient's general health was good.

On the 3d of December Prof. L. removed nearly all the right half of the inferior maxilla, in the presence of the Classes of both Medical Schools ; Prof. W. Stone, Prof. L. G. Capers, Drs. F. Loeber, Warren Stone, Jr., and others being present. Before beginning to operate, Prof. L. made some remarks on the case, insisting especially on the benign character of the tumor, as shown by its slow growth, non-vascularity, its distinct boundaries, and the absence of the peculiar shooting pain characteristic of cancer. He also enunciated the rule, that in extirpating a *malignant* growth, the surgeon should cut as wide of it as practicable, whereas, if it were *simple*, he should cut away as *little* sound tissue as possible. The patient having been put under chloroform ; Prof. L. made an incision just below the margin of the jaw, from the

angle nearly to the symphysis. The facial artery sprung and was ligated. He then dissected up the soft parts from the bone, and having extracted the right canine tooth, he cut nearly through the bone with a Hey's saw, finishing the section with bone-nippers. The tumor being now thoroughly exposed, and the coronoid process appearing free from disease, a chain-saw was passed around, at Prof. Stone's suggestion, and an attempt was made to cut through just in front of this process, but the bone proved too fragile for the saw to be used advantageously. This section was also completed by the aid of the bone-nippers. It was then found that a part of one of the osseous cysts of which the tumor was composed, had invaded the base of the coronoid process, and could not be removed without destroying the latter; consequently Prof. L. decided to leave it, trusting to the consecutive suppuration to break down and destroy it. A rather troublesome hæmorrhage followed, from the inferior dental, and other small arteries located in the bone. This was controlled by the continuous application of cold water. The external wound was then closed by sutures, and dressed with carbolic oil, one part of the acid to eight of olive oil. Extensive suppuration followed, accompanied by the discharge of small flakes of bone. This gradually diminished, however, the patient's strength being supported. In about six or eight weeks, the oral surface of the wound had entirely cicatrized, and hard fibrous substance seemed to have taken the place of the bone. Externally there were still several fistulous openings from which little flakes of bone were occasionally discharged. Patient can eat with perfect ease, and speaks with more distinctness than before the operation. The severe neuralgic pains experienced before the operation are no more felt. At the present date, March 1st, 1870, she is at work in a private family and the wound entirely healed up with a firm substance filling the interval between the points of bone section, the line of incision in the soft parts being hidden in the folds of the neck.

The tumor consisted of a number of bony cells or cysts, containing a soft fleshy substance. At those points which had appeared soft before the operation, the bony envelope was wanting. It was examined microscopically by Dr. Loeber, who found the fleshy part of the tumor to consist of oval, nucleated cells, exhibiting in one part only a slight disposition to the alveolar arrangement found in cancer. The bony cysts presented nothing peculiar in their structure.

CASE IV.—*Lithotomy; Death and Autopsy.*

Remy C., aged twenty-two; native of France; butcher; was admitted January 11, 1870. He stated that several years ago he had a stone in the bladder. Two years since this was crushed, in the town of Mabouzhe, in France. He passed several fragments, and then, in consequence of some difficulty in evacuating the rest, an incision was made through the perineum into the urethra, and a fragment which had lodged there was removed. After this operation he suffered intensely at times in micturition, apparently from a remaining fragment falling into the neck of the bladder. A

stone was detected, and measured with a graduated lithotrite. It was found to measure about one and one-eighth inches in its shortest diameter. On the 14th, Prof. L., assisted by Prof. Capers, performed the usual lateral operation of lithotomy, before the classes of both medical schools. A phosphatic calculus as large as a small hen's egg, was removed, only about three and a half minutes being required for the operation.

Evening. Patient quiet and comfortable; pulse good, no hæmorrhage or fever.

15th. No change; doing well; urine passes freely through the wound.

16th. Considerable prostration; pulse quick and feeble; slight headache.

The patient remained in this condition, with hardly a perceptible change, for about a week, when he began to complain of a severe and constant pain in the right lumbar region. The wound meanwhile took on a low unhealthy kind of inflammatory action, and the patient became extremely despondent, expressing the conviction that he would not recover. Two or three days later he began complaining that his sight was failing; the cephalalgia still persisting, with occasional hiccup. It was now evident that he was sinking. On the morning of the 30th, he complained that he could not pass his water, and that he was suffering from distension of the bladder. As the deeper portion of the wound appeared to have closed, Prof. L. introduced a catheter, but found very little urine.

About two o'clock that day, he complained of dyspnœa, told his attendant that he was dying, and about an hour later, suddenly expired.

Autopsy nineteen hours after death.—Rigor mortis strong. Wound of an unhealthy sloughy appearance; no appearance of peritonitis, but all the abdominal and thoracic viscera in a state of intense venous congestion. Hemorrhoidal veins perfectly gorged with coagulated blood; liver containing some small whitish spots, looking like minute abscesses. But the most marked appearances were those presented by the urinary organs. The bladder was much contracted, its muscular coat greatly hypertrophied; the mucous lining congested, and thrown into numerous folds, among which were a number of distinct sacks or pouches, filled with muco-pus. The left kidney was enlarged to twice its normal size, its cortical substance deeply injected, and the pelvis filled with a kind of unhealthy pus, mingled with a curd-like substance. *The ureter was nearly an inch in diameter, with walls as thick as those of the rectum;* its cavity filled with the same kind of pus found in the pelvis of the kidney. Right kidney a mere cyst, somewhat lobulated, and containing a watery pus. The right ureter was in the same condition as left. On opening the right side of the heart, a large fibrinous clot was found, filling the auricle and ventricle, and sending a prolongation of the size of the little finger, into each of the main branches of the pulmonary artery. A small clot was also found in the *left* side of the heart. The brain was in the same state of extreme venous congestion as the thoracic and abdominal viscera.

Dr. Loeber, demonstrator of Anatomy and Lecture on Pathology, in the New Orleans School of Medicine, used the pathological material furnished by this patient, to illustrate a lecture before the class. He regarded the condition of the right kidney, as having been brought about by the obstruction of the ureter at its vesical orifice due to the hypertrophic and contracted state of the muscular fibres of the bladder; the ureter first becoming dilated and the retardation of fluid therein, and its accumulation in the hilus gradually producing the hydronephritic condition which resulted in the total destruction of the parenchyma of the organ. The same train of sequence was already in progress in the left kidney also, as was to be inferred from the dilated and hypertrophied condition of the ureter of that side also. Under these circumstances the operation afforded the only chance of saving the patient, by removing the cause of the muscular contraction, and thus freeing the vesical orifice of the ureters of both sides. If the low form of inflammatory action had not killed the patient by its effect on the remaining kidney, in arresting its functional efficiency, and thus producing such changes in the blood as to lead to the formation of thrombus in the right side of the heart and pulmonary artery, which was probably the immediate cause of death, the right kidney might, under favorable circumstances, have shrunk after the semi-purulent fluid which distended its shell had obtained exit through the urinary passages, and the patient might have recovered with but one kidney.

For the history of this case, up to the time of the operation, the writer is indebted to Mr. (now Dr.) J. M. Janeso, at that time ward student.

Strangulated Hernia. Delirium Tremens. Pyæmia. Death. Autopsy. Metastatic Pulmonary Abscesses. Bright's Disease. Cardiac Thrombus, etc.—Reported by S. O. YOUNG, M. D.

JAMES L., aged twenty-five years, had congenital hernia of the right side. He never wore a truss until within the past ten months, when he obtained one of Spilman's, which kept the hernia entirely reduced. On the 20th of December he got drunk, and during the night vomited a great deal, having the truss off at the time. While vomiting, the hernia came down, and when he attempted to reduce it, a few minutes afterwards, he found he was unable to do so.

Being drunk at the time, he paid no attention to this, but dropped off to sleep. This occurred about 9 o'clock, P. M. About 12 o'clock, P. M., he was awakened by a severe colicky pain, and sense of tightness over the abdomen, and in a short time afterwards he commenced vomiting and continued to do so, at short intervals, until 11 o'clock, A. M., next day, when Prof. Logan first saw him.

Prof. Logan placed him under the influence of chloroform, and attempted to reduce the hernia by taxis. Finding he was unable to do this, he concluded to operate. Accordingly, in the

presence of the Class, assisted by Prof. Capers, he proceeded to do so.

He first made an incision through the skin and superficial fascia, along the axis of the tumor, about three inches in length.

Then he divided each of the coverings on a director, until he came to the sack. He then passed his finger up to the external ring, and using a probe-pointed bistoury divided the ring. Upon manipulation, he found he was unable to reduce the hernia. He then divided the internal ring and could not reduce it still, on account of adhesion of the sack having taken place. He then divided the sack and passed the intestines back without further trouble.

Upon dividing the sack, a large quantity of bloody-looking serum escaped.

The intestines were very much injected, and of a dark brown color, but still retained the shiny appearance, showing that mortification had not taken place. After returning the tumor there was a small piece of omentum found lying in the wound, which had become detached during the manipulation. After removing this, the sides of the wound were brought together and secured by a few sutures, and a few adhesive strips. The patient was then removed to the Charity Hospital. He seemed doing well, during the day and evening, but during the night he had an attack of delirium tremens, got out of bed, and ran round the ward for some time before they could get him back. Next day he was attacked with peritonitis, and on the 28th of December, seven days after the operation, he died.

Post mortem examination made by Dr. Loeber twenty hours after death:

The wound had an exceedingly bad appearance, inclined to slough. There were no healthy granulations. Upon opening the abdomen, the omentum was found to be greatly injected. On the left side there was found a quantity of purulent serum. On right side greenish-looking lymph between the intestines and parietes of abdomen. At the seat of disease there was one mass of mortification (Dr. Loeber's term).

The intestines were of a dark, tarry appearance. At the internal ring, there was some adhesion. The whole ring was filled up with pus. From this point the disease started. All the intestines around the internal ring were in a morbid state, and were adherent to each other and to the bladder. On removing the intestines there was found about four ounces of purulent serum, in the cavity of the pelvis. A great quantity of lymph was thrown out over the whole length of the intestines, and they were adherent to each other in many places. On opening the thorax, the pericardium was found to be infiltrated with serum, and in its cavity the same purulent effusion was found as in the pelvis,—about three ounces. The heart was somewhat larger than usual, and was flabby. Right auricle contained some liquid blood.

Right ventricle contained a small fibrinous deposit. The left auricle and ventricle were perfectly empty.

In right auricle and ventricle there was a small fibrinous clot, consisting of white fibres. Similar clot in left ventricle, going up to the aorta, coming from left auricle. No pleuritic adhesions were found. By making a longitudinal cut through the left lung, it was found to be full of blood. In some places, small dark-looking spots about the size of a pea, were found. Also some hard substance which had begun to suppurate. Right lung same as left.

Spleen very small and perfectly normal. Left kidney larger than usual. Capsule adhering in some places. The cortical substance enlarged, and Malpighian bodies and pyramids injected. The right kidney was also enlarged. On removing the capsule, some of the substance of the kidney was torn off with it. Some of the pyramids were greatly injected. The whole kidney was enlarged by fatty degeneration of the epithelium, showing second stage of Bright's disease. Stomach empty and distended with gas.

The liver was of normal size; the gall-bladder full of bile; the whole liver presented a pale appearance; the hepatic veins were full of blood; the portal vein empty.

EDITORIAL AND MISCELLANEOUS.

Female Practitioners of Medicine.

(THE general agitation of the so-called "woman question" in Europe and in this country, and especially the demand of many individuals that the medical profession should be open to the admission of women, will render needless any apology for a few plain remarks on the above subject.) It is not our intention to discuss at present the fitness of women for the duties of medical practice, or the propriety of her abandoning the privacy of domestic life and becoming familiar with the coarser phases of human nature by close contact with mankind of all degrees. At some other time, when in a speculative mood, we may imagine the consequences of abolishing the distinctions which civilization has established in the relations and duties of the two sexes; but just now we are more inclined to take a practical view of the matter.

(It is nothing new nor unusual to find hens discontented with the lot which nature has assigned them—that of laying eggs and raising chickens—and aspiring to the more conspicuous role of crowing and fighting. Probably a desire for notoriety actuates the feathered female biped, as it is undoubtedly the main-spring which impels her counterpart to figure in a public career. The plea of enlarging the sphere of woman's labor and promoting her independence is nothing but a subterfuge. Civilization, with its

refinements and luxuries, has multiplied the domestic duties of woman. Among uncivilized nations and in the lower grades of society, we find both sexes pursuing nearly the same avocations; while divergence of their respective spheres of action serves as an exponent of improvement in the social relations of our race, just as division of labor in the arts is inseparable from their perfection.

In our view of the case, a desire for notoriety on the part of the leaders of the present "woman's movement," together with a love for novelty on the part of their followers, is at the bottom of the whole matter. Why these crowing hens and their male admirers selected medicine as the fortress most suitable for assault, can only be conjectured. We may suppose that the exceeding absurdity of the attempt would afford a grander scope for gaining notoriety than any other practicable plan, and this is not improbable.

Nevertheless, be this as it may, women have obtained a foothold within the medical fortress, and they will not be dislodged by reasoning, ridicule, nor yet by more forcible measures. The history of popular delusions proves that they gain strength generally by opposition; and in this case such would surely be the result. Nothing short of a thorough trial will settle the question of woman's fitness for this career, and propriety might as well now be left entirely out of consideration. In fact, such is the perverseness of human nature, the greater the impropriety, the more eagerness to try the experiment.

We say *experiment*, because we do not yet consider the success of female practitioners an accomplished fact. Therefore we contend, give women a *fair* trial, for a trial they must have. Let them have the best advantages for a medical education in all its branches, if they choose; and the more the better. Then subject them to the same test of qualifications as men, and finally give them all the rights and privileges enjoyed by other recognized members of the profession.

On the question of mixed classes, we have only to remark, that we trust a sense of simple decency will guide medical teachers to a positive refusal to give instruction in anatomy, clinical surgery and operative midwifery to mixed classes of males and females.

"Time tries all," and a considerable period must elapse before society will render its verdict. Many people will be captivated by the novelty of female doctors, and will give them the preference in diseases of women and children; some will distrust and wait for the judgment of others, rather than try the experiment for themselves. We do not anticipate that women will either desire, or be desired, to treat more than the ordinary complaints of children and those of their own sex; and, unless they meet undue opposition, we opine that the race of female practitioners of legitimate medicine, will hardly last beyond the present generation, nor become numerous enough to disturb seriously the status of our profession.

We have received a circular announcing the early publication of a monthly medical Journal, to be entitled : "The Cotton Zone Central Journal of Medicine." It is to be printed and issued at Atlanta, Ga., and will be edited by Wm. Abram Love, M. D., of Albany, Ga., assisted by a corps of collaborators, possessed of good abilities, and judiciously located with respect to the field of observation which the Journal is designed to command.

We are well acquainted with its chief editor, and testify to his superior professional qualifications, and also by virtue of many pleasant remembrances, to his excellent personal attributes.

"The National Medical Journal" is to be established at Washington City, and to be edited by C. C. Cox, M. D., L. L. D. We can give our readers no especial information concerning the enterprise, beyond the bare statement of the fact that the editor mixes his physic and politics "*secundum artem, recentissimam.*"

With such political biases as our information causes us to accord to the editor, and with Washington City for his foraging ground, in the way of supplies, and the talismanic word "*National,*" like Jack Downing's stars, "*kivering*" the half of the paper "*with glory,*" no feeble word of our's could aid or retard its progress. Its pathway will be illuminated by the blaze from the headlight of the foremost locomotive of the railroad of "*human progress,*" whether that progress tend upwards or downwards.

Original communications from the following gentlemen have been received and will appear as soon as possible :

Dr. J. C. Faget, Dr. Jos. C. Harris, Dr. Jos. Jones, Dr. S. H. Coffman, Dr. R. A. Watkins, Dr. A. P. Hall, Dr. J. H. Grant, Dr. T. J. McKie, Dr. L. H. Cohen, and Dr. Wm. Huston Ford. Dr. Faget's article is a continuation of an article on Paludal Fever already published, and it is with much regret that we were compelled to defer it to the July number, in as much as an answer from Dr. Deléry, appears in present number. In justice to Dr. F. we can but ask a suspension of opinion until the entire article appears.

Errata.

In a clinical case of syphilis, reported by Dr. J. C. Mobley, Lexington, Miss., in the January No. of the Journal, page 107—two errors occurred, as follows : 3d line of Article, read *in* before the word *affording*—and in 8th line Ricord is spelled *Record*.

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- Mollites Ossium. By Joseph Jones, M. D., Prof. Chemistry, University of Louisiana. From author.
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- Report of the Committee on the Relations of Alcohol to Medicine. By Jno. Bell, M. D. From author.
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- On the "Sedative" Action of Calomel in Disease. By F. D. Sente, M. D. Cold Spring, New York. From author.
- Reduction of Dislocations. By Warren Greene, M. D. From author.

MORTUARY REPORT

BY THE BOARD OF HEALTH FOR THE YEARS 1868-69.

[Our thanks are due to Dr. S. C. Russell, Secretary of the Board of Health, by whom this report has been prepared at great pains, in its present shape, from past records.—Eds.]

DISEASES.		1868	1869	DISEASES.		1868	1869
Amputation	3	1	1	Constipation of Bowels .....	...	...	1
Abscess of Abdomen .....	...	1	1	Consumption	632	684	
" Brain	4	2	2	Convulsions	203	54	
" Kidneys .....	...	2	...	" Adult	19	20	
" Liver	10	10	3	" Infantile	50	215	
" Lungs	1	3	...	" Puerperal	8	18	
" Lumbar region...	...	1	1	Contusio .....	...	1	
" Thigh .....	...	2	2	Cyanosis	6	4	
Apthæ	2	1	1	Croup	28	21	
Albuminuria	10	17	17	Debility	128	106	
Aneurism .....	...	5	...	" Adult .....	...	2	
" of Aorta	4	5	...	" Infantile	2	5	
Anæmia	19	18	18	Delirium Tremens	22	13	
Angina	1	...	...	Diarrhœa	53	80	
" Pectoris .....	...	4	...	" Acute	1	12	
Atrophia	2	5	...	" Chronic	58	103	
Apoplexia	72	85	85	Dropsy	92	72	
Asthma	15	23	...	" of Abdomen	3	4	
Bronchitis	71	81	...	" Brain	11	16	
Burns or Scalds	19	50	...	" of the Chest .....	...	1	
Bright's Disease	14	18	...	" of the Heart .....	...	7	
Cancer	52	32	...	" Ovarian .....	...	2	
" of Abdomen .....	...	1	1	Diabetes	1	...	
" Breast	4	7	...	Drowned	62	59	
" Face	1	2	...	Dyspepsia .....	...	3	
" Liver .....	...	1	1	Dysentery	131	105	
" Neck .....	...	1	...	" Acute	10	13	
" Pelvis .....	...	1	...	" Chronic	20	40	
" Rectum	1	2	...	Diphtheria	16	19	
" Stomach	11	19	...	Empyemia	5	...	
" Tongue	1	1	...	Epilepsy	12	19	
" Testicles .....	...	1	...	Entero-Colitis	32	35	
" Womb	9	22	...	Erysipelas	1	13	
Catarrh	16	22	...	Emphysema	1	...	
Catalepsy .....	...	1	...	Elephantiasis .....	...	2	
Carbuncle	1	1	...	Exposure	5	2	
Cholera	129	4	...	Fever	109	2	
" Infantum	85	56	...	" Bilious	19	12	
" Morbus	22	9	...	" Congestive	105	118	
Cancerum-Oris	1	...	...	" Brain	17	26	
Cirrhosis of Liver	13	12	...	" Gastric .....	...	3	
Colic	2	...	...	" Intermittent	15	32	
" Pectonum .....	...	3	...	" Malarial	4	34	
" Bilious	1	1	...	" Nervous	7	5	
Compression of Brain	1	3	...	" Pernicious	67	110	
Concussion	2	6	...	" Puerperal	9	20	
Congestion .....	...	1	...	" Remittent	26	36	
" of Bowels	20	8	...	" Scarlet	14	13	
" Brain	91	108	...	" " Malignant	1	...	
" Liver .....	...	2	...	" Typhoid	58	63	
" Lungs	6	46	...	" Typhus	5	5	

DISEASES.		1868	1869	DISEASES.		1868	1869
Fever, Yellow		3	3	Labor, Difficult.....		2	13
Fistula.....		...	2	Liver, Disease of.....		9	6
Fracture		2	1	“ Enlargement of.....		1	...
“ of Leg.....		2	2	Laryngitis		6	10
“ Knee		1	...	Lock-jaw.....		104	134
“ Neck .....		...	1	Marasmus, Adult		42	21
“ Spine		2	...	“ Infantile.....		73	135
“ Skull		2	5	Mercurialism .....		...	1
“ Pelvis.....		...	1	Malpractice .....		...	1
“ Vertebra .....		...	1	Myelitis .....		...	2
Gangrene		6	13	Measles		1	217
“ of Lungs .....		...	2	Mumps .....		...	1
“ Leg .....		...	3	Meningitis		70	95
Gastro-Enteritis		86	66	“ Cerebro-Spinal ...		7	7
Gastralgia .....		...	2	Menses, Retention of .....		...	2
Gout		2	6	Necrosis .....		...	1
Hæmorrhage		23	33	Neuralgia		1	2
“ from Bowels ...		1	1	Old Age		62	73
“ Lungs		14	20	Osteo-Sarcoma .....		...	1
“ Liver		1	1	Paralysis		19	28
“ Navel.....		...	2	Peritonitis		16	16
“ Rectum ...		2	...	Pericarditis.....		4	5
“ Stomach ..		7	2	Pleurisy		7	13
“ Womb ...		1	9	Pneumonia		231	311
Heart, Disease of		97	138	“ Pleuro		4	12
“ “ Valvular		1	18	“ Typhoid .....		...	16
“ Enlargement of.....		2	15	Poison		7	5
Hernia		7	7	Premature Birth		63	113
“ Strangulated		5	...	Purulent Absorption		7	2
Hemiplegia		2	2	Purpura		1	1
Hydrophobia		6	4	Rheumatism		11	10
Hooping Cough.....		4	121	Rachitis.....		1	1
Hysteria		1	...	Scrofula		7	13
Hæmaturia .....		...	1	Scurvy.....		5	1
Imperforate Anus.....		3	3	Small Pox		14	137
Inflammation		30	2	Softening of Brain		25	33
“ of Bladder		4	9	“ of Stomach .....		...	2
“ Bowels		30	95	“ of Spinal Cord.....		...	3
“ Brain.....		18	39	Stillborn		505	408
“ Chest		1	...	Syphilis		7	4
“ Heart		7	...	“ Secondary		1	4
“ Kidneys		7	9	“ Tertiary		1	1
“ Liver		10	34	Stricture of Rectum		1	...
“ Stomach		9	21	Suffocation		6	25
“ Ear		1	...	Suicide		19	8
“ Throat .....		...	4	Sunstroke		1	4
“ Veins.....		...	2	Skin Disease .....		...	2
“ Womb .....		...	11	Tubercle of Brain		1	...
Influenza.....		...	1	Teething		56	63
Inanition		15	24	Trismus-Nascentium		159	136
Insanity		1	7	Tumor of Breast		1	...
Injuries		7	4	“ Brain		1	...
Intussusception of Intestines		2	7	“ Liver .....		...	1
Infanticide		1	2	“ Thigh		1	1
Intemperance.....		8	...	“ Throat		1	...
Jaundice		2	6	“ Ovarian.....		2	2
Kidneys, Disease of		3	4	“ Womb		1	...
Killed, Accidentally.....		16	11	Tabes Mesenterica.....		10	3
“ Murdered .....		...	1	Urethra, Rupture of.....		2	1

DISEASES.		1868	1869	DISEASES.		1868	1869
Ulceration of Bones .....	...	2	2	Unknown .....	...	32	17
“ Bowels	3	3	3	Varicose Veins .....	...	1	1
“ Leg	1	1	1	Varioloid .....	...	4	4
“ Throat.....	2	1	1	Worms	2	1	1
Uremia	1	6	6	Wounds	26	11	11
Urine, Infiltration of.....	2	1	1	“ Gunshot	34	25	25
“ Retention of .....	...	1	1	Not Stated	321	109	109
Total				5343 6001			
COLOR.		1868	1869	SEX.		1868	1869
Whites	3503	3757	3757	Male	2844	3275	3275
Mulattoes	504	691	691	Female	2292	2598	2598
Blacks	1172	1401	1401	Not Stated	207	127	127
Not Stated	164	152	152	Total			
Total				5343 6001			
AGES.		1868	1869	AGES.		1868	1869
Under 1 year.....	1331	1385	1385	50 to 60 years.....	386	445	445
1 to 2 years.....	364	472	472	60 to 70 “	266	276	276
2 to 5 “	229	493	493	70 to 80 “	136	133	133
5 to 10 “	152	201	201	80 to 90 “	62	45	45
10 to 15 “	90	105	105	90 to 100 “	22	30	30
15 to 20 “	132	146	146	100 and upwards.....	9	15	15
20 to 25 “	221	249	249	Unknown.....	585	575	575
25 to 30 “	282	280	280	Total			
30 to 40 “	588	581	581	5343 6001			
40 to 50 “	488	570	570				
NATIVITIES.		1868	1869	NATIVITIES.		1868	1869
Africa	2	8	8	Poland.....	1	2	2
Austria	6	7	7	Portugal	4	2	2
At Sea .....	...	3	3	Prussia	36	16	16
British America.....	3	4	4	Russia	3	1	1
Belgium	5	4	4	Scotland	10	19	19
Canada	10	10	10	South America	1	3	3
China	3	1	1	Spain	29	19	19
Denmark.....	6	3	3	Sardinia	2	...	...
England	49	49	49	Sweeden	6	9	9
France	207	196	196	Switzerland	14	14	14
Germany.....	302	279	279	Turkey.....	...	1	1
Greece	2	...	...	United States.....	3338	3971	3971
Holland	2	2	2	Unknown	19	23	23
Ireland	439	474	474	Wales	1	1	1
Italy	31	42	42	West Indies	32	33	33
Mexico.....	11	9	9	Not Stated	768	789	789
Madeira	1	3	3	Total			
Norway .....	...	1	1	5343 6004			

NOTE.—As the above summaries have been condensed from the weekly reports of the Cemeteries to the Board of Health, it is necessary to state that the returns for 1868 are from Dec. 27, 1867, to January 2d, 1869; and those of 1869, from January 3d, 1869, to January 1st, 1870, in both cases inclusive.

LIST OF GRADUATES.

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THE
NEW ORLEANS
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JULY, 1870.

ORIGINAL COMMUNICATIONS.

ARTICLE I. *An Essay on the Climate and Fevers of the South-Western, Southern, Atlantic and Gulf States ; revised, enlarged and concluded, with a brief exposition and defence of the existence and essential nature of Malaria ; illustrated and accompanied with a Medico-topographical and Meteorological account of the Dead Sea region.* By JAMES C. HARRIS, M. D., of Wetumpka, Alabama. [Second edition, 1870.]

PART FIRST.

UNDER the impression that it is the duty of every physician to record in some form or other the result of his experience, we have occasionally for the last eighteen or twenty years, contributed through the Southern Medical press, brief notices of the *climate and diseases* of particular *localities and regions*. Of some of these crude attempts at authorship, not only the substance, but frequently the language, without further notice or acknowledgment, will be found scattered through the following pages. In addition to this it will also be observed, that to enable us to illustrate some of our peculiar *climatic* features, we have been compelled to draw largely upon the labors of others ; but in every instance we hope it will be found that we have done so in an acceptable manner. With these brief *introductory* declarations, we will after first defining our geographical limits,

and giving their general geological outline, proceed to present as succinct, but as clear a view of particular localities, together with their meteorological phenomena, and principal fevers, as the nature of our undertaking and materials will justify.

In the following pages we comprehend as constituting the South-Western, Southern Atlantic and Gulf States, all that region of country extending from near the *Tropic of Cancer*, to a little above the *thirty-sixth parallel* of north latitude, and lying entirely between the first, and thirty-eighth degrees of longitude west from *Washington*. The whole of this great region (with the exception of the western part of New Mexico, and the territory of Arizona), with its eastern, southern and south-western limits, resting on the Atlantic Ocean and Gulf of Mexico, and lying within the mountain ranges, and high lands presently to be briefly sketched, if not naturally, may for the purpose of description, be divided into the *lower*, or *level*, the *middle*, or *undulating*, and the *upper*, or *mountainous regions*. The level or undulating *zones* with an average elevation above the Atlantic Ocean and Gulf, of not more than four hundred feet, are composed *geologically* of the Tertiary and cretaceous formations, to which succeed in the mountainous regions, the *metamorphic*, *carboniferous* and *primitive*.*

The relation existing between this region, the Gulf of Mexico, and the Atlantic and Pacific Oceans, are of such an intimate and natural character, we do not believe the climate and the endemic influences of the former can be properly understood, or fully appreciated without at least some knowledge of their principal *currents*, *temperature* and *winds*. Upon the first of these subjects, we are informed by marine hydrographers, that a portion of the great Western *Equatorial current*, after striking against the eastern projection of South America, turns to the north, and passing through the *Caribbean Sea*, enters from one of the *hottest regions* on the globe, through the Straits of *Yucatan*, the Gulf of Mexico, where after mingling with its waters, and performing in it a kind of circuit, flows out to the north-east, through the straits of *Florida*, at the

*The geographical, topographical and geological descriptions contained in the following pages, besides the sources mentioned in the text, have been chiefly condensed from Colton's Atlas, Monteith's and McNally's geographical series, No. 5. Woodbridge, Morse, and Mitchell's geographies, the Medical Statistics of the United States Army, and the works of Drs. Forny and Drake.

rate of four or five miles an hour, as the well known and celebrated *Gulf Stream*. As the waters of the northern shores of the Gulf are known to be cooled by the approach of *winter*, northern *winds*, and the influx of *river currents* from higher latitudes, upon the same *principles* the temperature of its southern and middle portions must be greatly *increased*, by the unceasing introduction, through the Straits of *Yucatan*, of a large amount of *warm water*; and which we think more than probable, under the influence of a *South-West wind*, in passing out east around the Capes of Florida, exerts to a considerable extent the same modifying influence on the climate of *Georgia* and the *Carolinas*, that the Gulf is known to do under similar circumstances on the more Southern States of the *Mississippi Valley*.*

Mountain Ranges, commencing on the east, nearly under the thirty-sixth parallel of north latitude, and perhaps not more than one hundred and fifty miles from the sea shore, a continuation of the Appalachian range, under the name of Blue Ridge leaves the State of Virginia, and passing around through the *Carolinas*, in a south-westerly direction, parallel with the ocean, and ranging from fifteen hundred, to three thousand feet above its level, terminates in north-eastern Georgia. North-west of this mountain range, ranges of the Alleghany and Cumberland mountains, under different names, extend down into north-western Georgia, and north Alabama. North of the thirty third parallel in Alabama, ridges and spurs of the latter range, where they turn to the west, sink down to nothing more than an elevated range of hills, and approach the Mississippi river, in the direction of the Ozark mountains.

Turning now to the west and commencing some four or five meridians east of the Rocky Mountains (which here constitute the western boundary of the Mississippi valley) nearly under the twenty-fourth (24th) meridian and twenty eighth parallel, a spur of the *Sierra Madre*, proceeding in a north-easterly direction, from near the junction of the Rio Pecor, with the Rio Grande, enters Texas near the source of the Neuces River, and continuing in this direction, crosses the Colorado some distance below

*It appears that Dr. Forny (Climate of the United States, pages 87 to 90.) thought the influence of the Gulf Stream was nearly altogether expended in warming (from Cape Finis-terre to North Cape) the western coasts of Europe.

the mouth of the San Saba, and is finally lost in the undulating lands of the *Brazos*. To the north-east of this mountain range, with a supposed elevation of from eighteen hundred to two thousand feet, lie the table lands of Texas. Near the eastern margin of these, and of which there are nothing more than a rugged continuation, commence the Ozark mountains, which, after sending off some lateral spurs to north-western Louisiana, cross the upper portion of the State of Arkansas, and terminate near the Missouri river. From the eastern base of this range, the distance across to the first spurs of the Cumberland mountain, an outlier of the Appalachian range on the east side of the Mississippi, is not more than two hundred miles. Through this great gorge, the Mississippi river, a little to the west of the twelfth meridian, enters the central and northern portion of the region we have under consideration, and from which point, in its general course as far down as the mouth of Red River, it gradually inclines to the south-west, thence south-east to its confluence, nearly under the same meridian.

Standing on the shore of the Gulf of Mexico, near the mouth of the Mississippi, with the face turned to the *north*, all of that portion of the South-Western, Southern, Atlantic and Gulf States, lying to the south-east and north-east of this *river line*, is recognized as the *eastern* portion; and that to the south-west and north-west as the *western*.

The principal rivers, with their tributaries, washing the eastern section, commencing on the east are the Cape Fear, Pedee, Santee, Savannah, Ogeechee, Altamaha, St. Marys, St. Johns, Suwanee, Apalachicola, Alabama, Mobile, Tombigbee, Pearl and Yazoo; all of which, excepting the St. Marys, St. Johns and Suwanee, have their sources either within the Appalachian range, or some one of its numerous outliers, and discharge their waters into the Atlantic Ocean, the Gulf of Mexico, or the Mississippi river. The St. Marys and Suwanee, rivers of Georgia and Florida, have a common source in the Okefenokee swamp; the St. Johns in an immense swamp in Orange county, Florida.

Those on the west, with their tributaries, commencing on the south-west, and extending around to the north-west, with the exception of those of western New Mexico and the Territory of

Arizona (which originate from the western side of the Rocky mountains), are the Rio Grande, Neuces, San Antonio, Colorado, Brazos, Trinity, Sabine, Red, Washita, Arkansas and White. Of these rivers the Rio Grande, the Red and Arkansas, have their sources within the Rocky mountains; the Neuces, San Antonio, Colorado and Brazos among the spurs of the Sierra Madre; and the Trinity, Washita and White, from the table lands of Texas, and spurs of the Ozark Mountains; they all discharge their waters into the Mississippi and Gulf of Mexico, either directly, or through large bays or streams. Those of New Mexico and Arizona, the Colorado of the west, the Gila, and two of the principal tributaries of the latter, the Santa Cruz, and Rio Pedro, into the Pacific, through the Gulf of California.

Subdivisions.—*The Carolinas and Georgia* are naturally divided into three strongly-marked regions, the lower, the middle and upper. The first two of these lie on the great Atlantic plain. The lower country, extending from sixty to ninety miles from the sea shore, is nearly a dead level, traversed with sluggish streams, and filled with innumerable ponds and marshes. The soil is scanty and poor, excepting along the margins of the streams, where it is frequently rich. Back of this flat country, and extending to the lower falls of all the principal streams is a belt of from forty to sixty miles in width, of moderately uneven surface and sandy soil. The low grounds between the sand hills of this zone are suitable for agriculture and pasturage; but with these exceptions, this region is scarcely worth cultivation. The natural growth of both of these districts consists principally of the different varieties of pine, black jack, cypress and gum. Beyond this region, and above the falls, commences a beautiful country of hill and dale, and fine flowing streams of pure water. The whole of this region may be regarded as an elevated table-land, gradually rising to where the Apalachian range passes through these States. This up country has generally a strong and fertile soil, of a red color, mixed, in places, with a deep black mould, producing cotton, Indian corn, wheat, and other kinds of grain in great abundance. Its principal forest trees are the different varieties of oak, pine and hickory.

The southern coasts of these States are skirted by a range of *islands* which are separated from the mainland by *salt marshes*, intersected by numerous creeks, and subject to *overflow*;—and from each other by arms of the sea, which are the outlets of the rivers from the mainland to the Ocean. Their soil which extends only but a few inches in depth, consists principally of sand, mixed with shells and vegetable mould, and is very unproductive. Like the neighbouring continent, they are *low* and *flat* and covered with a forest growth, consisting principally of live oak, water oak, bay, gum, pine and palmettoes.

The *Atlantic Plain* in Georgia extends from the coast to the lower falls of all the principal streams, and embrace the *lower*, or level and the *sand-hill* or undulating regions.* The mainland between the Savannah and Altamaha rivers, adjoining the salt-marshes, which divide it from the sea islands, usually commences with a line of bluffs, which rise some twenty or thirty feet above the level of high water. These bluffs are separated from each other by arms of *salt marsh*, and small streams of fresh water. These streams originating from a range of sand-hills twenty or thirty miles further inland, have a tide flowing a distance of ten or fifteen miles above the bluffs; and for about the same distance further they are margined by a fresh water *marsh* or *swamp*, from half a mile, to a mile in width, with strips of higher land between them. The sand-hills commence with an abrupt rise of about sixty feet, and from a comparatively level plain, and gradually increase in height as they extend inland, and to the north, until they are lost in the commencement of the upper or table land region. The valley and river swamps of this region in some places are covered with water, and a heavy growth of cypress, in others they are dryer and covered with such trees and bushes as delight in a damp rich soil. What is commonly called "*rotten lime stone*" probably underlies this whole region, the water of which when reached in digging *wells*, is generally impregnated with what appears to be *putrid* animal matter, which renders it very unpalatable, and in the general opinion unhealthy. ✓ South of the Altamaha river, after leaving the tide-way, the soil

* Chiefly condensed from the report of Jno. F. Posey, M. D., Southern Med. and Surg. Journal, 1853, p. 106—191.

and surface is described as consisting superficially of either a dark gray, or black mould, with an argillaceous substratum, to the depth of five or six feet; in some portions of this region, during dry spells of weather, the surface becomes so hard that it is almost impervious to the *plough* or *hoe*, and cracks in every direction, forming extensive fissures, of considerable depth.

This region of country known as the *low lands*, and invariably on account of its insalubrity abandoned by the planters in the early part of June, is during a very *wet* or *dry* season almost entirely exempt from severe grades of *remittent* or *congestive fever*.

Immediately above the *low lands* in Glynn County, the surface of the country suddenly rises some eighteen or twenty feet; the soil of this region is sandy and poor, the growth consisting chiefly of pine and black jack. On the south, in Ware County, is the great Okefenokee swamp, supposed to contain half a million acres of rich *alluvial* land. As this rather unexplored region is believed to be somewhat higher, than either the Gulf or Atlantic ocean, a survey has been ordered by the State for the purpose of settling the matter, and testing the practicability of its drainage. To the north of this swamp in the counties of Lowndes and Colquitt, the surface of the country, although somewhat undulating throughout its southern half—is generally *level*, and interspersed with shallow ponds, some of which are timbered, whilst others are entirely destitute of trees; these ponds which are usually nearly or quite dry during the latter part of summer and autumn, are during the rainy season of *winter* and *spring* filled to overflowing with water. The water courses of this region which lies upon the Mexican Gulf slope, have a general southern course, and are all tributaries of the Suwanee and Ochlochong rivers. There are some isolated portions of this region, covered with a heavy growth of oak, hickory and magnolia. The margins of the creeks and branches, are wooded with cypress, bay, gum, water oak, live oak, and a dense undergrowth of evergreen *shrubs*. The soil is a sandy loam, underlaid with clay at various depths from six inches to several feet.

The pine lands are moderately productive, yielding corn, cotton, potatoes, rice and sugar cane. The hammock lands are more productive, but probably not more durable. Very little

has been done as yet in the way of reclaiming bay or swamp lands.

About mid-way between the Atlantic and gulf coasts, the daily summer temperature varies from 90° to 100° ,—but has never been known to exceed at any time, 102° . The nights after nine o'clock, are seldom oppressively warm. The gales that so frequently prove disastrous upon the Atlantic coast, are seldom observed here, whilst those of the Gulf coast, particularly in the western part of this region, are sometimes very severe.

Its Endemic Influences.—In some localities in this region, as Augusta and Savannah, all the *grades and types* of malarial fever prevail, whilst in others, as on some of the *sea islands*, and in the *sand-hills*, only the milder grades and simpler forms are met with, upon this subject we are informed by Dr. Posey. Upon the authority of Dr. P. M. Kollock of Savannah, that the inhabitants of the *sea islands*, that have but few or no brackish ponds, or lagoons upon them, enjoy a much greater immunity from *malarial fever*, than those residing upon the opposite mainland; we are also further informed that *yellow fever* has prevailed in the port and city of Savannah, from 1817 to 1845 inclusive, seven times. In 1817 and 1819, it originated on ship board amongst the *unacclimated seamen and passengers*, and did not spread. The other visitations, although of an epidemic character, appear also to have been clearly of *local or domestic origin*. It also appears there prevailed in 1852, in Effingham County, as the result of the majority of the cases of neglected *bilious fever*, a remarkably fatal *typhoid fever*.

Alabama.—For the purpose of description, this State may be divided into north and south Alabama. Its southern portion which consists entirely of Atlantic plain, lies north of a line, commencing at Columbus, Georgia, latitude $32^{\circ} 25'$ north, and running west north west, by Wetumpka on the Coosa, Centerville on the Cahawba, and Tuscaloosa on the Black Warrior, terminates at or near Columbus on the Tombigbee in Mississippi, in latitude $33^{\circ} 30'$ north. The southern portion of this region, bordering on the Gulf of Mexico for the space of fifty or sixty miles, is low and level; the shores of Mobile bay being skirted with salt marshes and cypress swamps; beyond these the surface

of the country gradually becomes a little more elevated, and is covered with a forest of long leaf pine. The remainder of this part of the State may be divided into the four following natural divisions; the *alluvial*, the *cane-brake*, *prairie*, and *pine-woods*. The first of these lying along the creeks and rivers, and in some places subject to inundation, was in the first settlement of the country, covered with a dense growth of cane, interspersed with cypress and magnolia.

The second and third being identical in geological composition, in reality constitute but one variety, and extend over a greater portion of the counties of Sumpter, Green, Marengo, Perry, Dallas, Wilcox, Lowndes, Montgomery, Macon and the southern part of Russel, with, perhaps, the best specimens in Green and Marengo; the soil of this region consisting of yellow, pulverable limestone, intermixed with excrements of animals and plants, and resting on a strata of rotten limestone, is extremely fertile, and, although presenting but little diversity of surface, is occasionally broken into rounded bald knolls,* as may be seen between Arcola and Demopolis, and between Livingston and Sumpterville. The summits of these hillocks are sometimes ornamented with cedars, but more frequently they are quite bare, or covered with but a scanty vegetation. Even where the surface is but slightly undulating, bald spots occur, where the rocks come up to the surface, and are exposed to view; but perhaps the most remarkable feature of this section is the extraordinary power of its soil to imbibe moisture from the atmosphere. The effects of this property, continues the same authority,† is so strikingly illustrated in the uncleared parts of the canebrakes that one can scarcely satisfy himself that he is not standing on the low grounds of some great river. This region, owing to the impervious nature of some of its geological sub-strata, is without numerous streams, and, indifferently supplied with permanent springs, is *badly watered*.

The Piney Woods.—This region, the soil of which is of a light sandy nature, abounds in springs of pure clear soft water. The flat pine lands throughout the State, although they, frequently

*Tuomey's 1st Geological Report, page 134.

†Tuomey's 1st. Geological Report, page 136.

during the summer and fall months, contain a large amount of surface water, are more perhaps for the want of a certain character, than a sufficient supply of organic materials, generally healthy.

To the north of the line already indicated as separating north from south Alabama, the surface of the country gradually becomes more elevated and hilly, and in its extreme northern portion—mountainous.* The natural forest growth, throughout this region, may be said to consist principally of the different varieties of pine, and oak, maple, poplar, dogwood, gum, hickory, sycamore and ironwood. Although cotton is said to be the staple production of the State, in its southern portions, sugar cane, rice and tropical fruits are grown, in its northern, wheat, rye, and other cereals, and throughout *indian corn*, in great abundance.

Geological Outline.—To the *alluvial* and *post pliocene* deposits around the shores of the Gulf of Mexico, succeed the tertiary and cretaceous formations; of these the tertiary overlaps the southern edge of cretaceous in its entire extent across the State, “extending from the lower part of Sumpter, on the west, crossing the Alabama river near the mouth of Dixon’s creek, and thence across to a point above Fort Gaines, on the Chattahooche. From this the cretaceous extends up to the lower falls of all the principal streams,” meeting on the west the coal fields of the Cahawba and the Coosa, and on the east the primitive formations, extending down the mountain spurs.

The mean annual temperature of south Alabama may be approximately stated at about 69° Fahrenheit, and that of the entire State at something near 66°. Although the southern part of the State is not subject to as great a thermometrical range as many other countries, or even its more northern and mountainous regions, the variations from heat to cold, are sudden and frequent, often rendering fires during the summer and fall months, after sundown, and blankets at night indispensable to comfort, when the heat of the preceeding day ranged from 70° to 96° in the shade. The winters are so remarkably *mild* that the rivers never freeze over, and the heats of summer near the coast, are greatly mitigated by refreshing *breezes* from the Gulf.

*Tuomey, s 1st Geological Report, page 130.

Rivers.—The principal river of North Alabama, which enters it at its north-east and leaves it at its north-west corner, is the *Tennessee*. Those of South Alabama, are the Mobile, the Alabama, and their tributaries, the Tombigbee, Cahawba, Tallapoosa and Coosa, the two latter forming the Alabama. The Mobile, about fifty miles above the city of Mobile, is formed by the union of the Tombigbee and Alabama, which latter is also a considerable stream, and is navigable for vessels drawing from five to six feet of water to Claiborne, sixty miles above its junction, and one hundred and fifty miles higher up, to the mouth of the Cahawba, it has four or five feet of water, and from thence to the junction of the Tallapoosa and Coosa, and up the latter to Wetumpka, it is navigable for light draught steamboats, with few exceptions, at all seasons of the year. The Tombigbee is navigable for schooners one hundred and twenty miles to St. Stephens, and for steamboats, to Columbus, Mississippi. Of this stream the Black Warrior forms a large tributary and is navigable to Tuscaloosa. The south-western portion is drained by the Coneche; and the eastern by the Chattahooche river. The Alabama river, in flowing down from the high lands through an alluvial valley, generally presents a bluff on one side and a low bottom, subject to inundation, on the other. In many places the bottoms are from two three miles wide, and before being cleared up, were covered with a forest of cypress, sweet gum, magnolia and live oak.

Mobile, the chief commercial emporium of the State, is situated on the west bank of the Mobile river, at its entrance into Mobile bay, in lat. $30^{\circ} 40'$ north, long. 13° west. It is laid out on a beautiful and extended plain, elevated some ten or twelve feet above the highest tides, and extending back some six or seven miles to the commencement of the pine woods and tertiary plain. "Much of its site, which is somewhat terraced like the river bottoms of the interior of the great valley, is sandy, with beds of clay beneath, which prevent the rains from sinking into the earth, and lead to the formation of swales, or marshy grounds, that require ditching before they can be cultivated." To the south, adjoining the city, there is a cypress swamp, with its margin resting on an immense deposit of *silt* and drift-wood,

and which presents a foul and suspicious appearance. On the upper or north side of the city, and constituting to some extent its boundary, is a small bayou called One-Mile Creek, and beyond it another, named Three-Mile Creek, designations which indicate their distance from the city. On each side of, and between these sluggish streams, there are swamps overshadowed with cypress, sweet gum, magnolia, and other shrubs, common in such localities of the south; these swamps never become dry even to the depth of two inches below the surface.

“In front of the city the bay abounds in islets and beds of alluvion, enveloping drift-wood, and covered with a heavy growth of reed grass, and other aquatic and sub-aquatic plants.”

From the foregoing description, as might be expected, Mobile, besides being annually scourged with intermittent and remittent fevers of every type and grade of violence, has also experienced many yellow fever epidemics.

In ascending the Mobile river and its tributaries, we find standing amid the tertiary and cretaceous formations, St. Stephens, on the Tombigbee; Tuscaloosa on the Black Warrior; Claiborne, Cahawba, Selma and Montgomery, on the Alabama; and Wetumpka, on the Coosa.

Cahawba.—This town, once the capital of the State, stands on the west bank of the Alabama river, immediately below the mouth of the Cahawba, in latitude, $32^{\circ} 20'$ north, longitude $10^{\circ} 10'$ west. During high tides, the Alabama river overflows the entire town. To the north-west, at no great distance, extending across from one river to the other, is a considerable swamp. At present it is the seat of justice for Dallas county, and has never contained, since shortly after the removal of the capital to Tuscaloosa, in 1825, more than seven or eight hundred inhabitants.

From the first settlement of the country, this locality has been subject, during the summer and fall months, to violent and often fatal intermittent and remittent fevers. During the fall of 1821, and again during that of 1822, when its population perhaps reached upwards of three thousand inhabitants, it suffered severely from an epidemic visitation of *malarial fever*, described by Dr Heustis,† under the name of “*bilious remittent or endemic fever*.” Considering the histories and symptoms of these epi-

†Observations on the epidemic fevers of Southern States, page 369.

demics, interesting not only in a historical point of view, but worth preserving as illustrative of the influence of *physical causes* in the production and modification of *endemic fever*. We will now endeavor to present at least some of them.

"On account of the heavy rains, and high water during the spring of 1821, the low grounds and swamps adjacent to the Alabama and Cahawba rivers, during the early part of the season, were frequently inundated; so that it was late in May before many of the farmers upon them had an opportunity of planting, A considerable *freshet*, or rise in these rivers took place in July; and such was the quantity of rain that fell early in the summer, that many of the farmers were entirely frustrated in their attempts at planting; the earth being so completely *wet*, and inundated that the seed rotted in the ground; so that many were obliged to plant the same field three or four times, and then in several instances were doomed to lose their labor, and abandon the undertaking as hopeless."

"Such indeed was the situation of affairs, in many instances, upon the *river*; in others, less injury was sustained. Upon the uplands remote from the river, the crops came forward with considerable certainty and success, even there however the crops of *corn* and *cotton* were injured by the *excessive rains*, and replanting became a business of equal necessity."

"The average range of the thermometer during the month of June, 1821, was at seven A. M. 73°, 2 P. M. 85°, and at 9 P. M. 77°. Throughout the month of July, the average temperature as indicated by the same thermometer, was at 6 A. M. 71°. at 3 P. M. 84°, and at 9 P. M. 75°, making a mean temperature, through the day and night, of 76° 20'. During the months of August, September and October, the time of Dr. Heustis was so completely occupied by professional engagements, that he was unable to *register* the state of the thermometer; but thinks that the temperature of the month of August did not fall below that of July; and that there was no very *perceptible change* or *depreciation of temperature*, until the latter part of September."

"To what degree the air we breathe may be corrupted, without endangering health, we do not know, but that it may be

so to a certain extent there can be no doubt:—thus decomposition takes place at a temperature considerably below that which is necessary for the production of *bilious or yellow fever*, and in every climate and country, this process goes on to a greater or less extent, during the summer months. Now the natural effect of this decomposition is to vitiate the atmosphere; yet in high northern latitudes, the inhabitants remain perfectly healthy, at least entirely free from anything like the endemic fevers of *hot and tropical regions*; from which it appears, that it is only when the *aerial products of decomposition exist in excess* in the atmosphere, that they become the source of derangement and disease to man. Nor is our atmosphere ever *entirely* free from this impurity and the contamination of heterogeneous admixtures.”

“Towards the latter part of July, when the rains had measurably ceased, the water of the ponds and marshes considerably evaporated, and the river had fallen within its banks, the work of putrefaction went on with rapid strides, and *fever* began to make its appearance.”

“In the month of August, when the putrefaction process had probably reached its height, it was almost impossible, to ride through the either town or country, or turn a corner, without being assailed by a disagreeable and noisome odor, resembling that of a sick room, where two or three patients are confined with the worst kind of fever. This smell was the most perceptible at the still, and damp hour of twilight, when the *morbid miasms*, not being dispersed and scattered by the wind, were suffered to accumulate in the vicinity of the mouldering mass from which they originated, and by attaching themselves to the particles of falling *dew*, diffuse themselves in the atmosphere around. Of these mouldering ruins of *animal*, and *vegetable growth*, and hot beds of disease, there were no scarcity.”

The symptoms of the disease, we are informed, did not differ *materially* during the seasons of its prevalence; with the exception that during the fall of 1821, it was more malignant in town, than it was in the surrounding country, and in 1822, milder in the former than the latter situation.

“During the early part of the season of 1821, *fever* and *ague* and mild remittents had been common, but as they yielded

without difficulty, and were attended with little danger, they excited no alarm or apprehension. The summer continued tolerably healthy, until towards the latter part of July, when the disease began to assume a character more obstinate and severe. In August, it became still more unmanageable. Early in the month of October the symptoms again underwent a change. The tongue was clear and moist, even in the worst cases; though the tongues of persons in ordinary health, were all more or less *furred*; showing that all were impregnated with the *morbid poison*, or *matter of fever*; headache was common. The urine in some cases was of a yellowish green, or dark saffron hue, in others, small in quantity, and of a dark red, or brownish color, giving to the linen a *red tinge*; in some cases it was limpid and copious, whilst in others, it was thick and viscid, appearing to consist principally of vitiated bile. This was remarkably the case in one patient, Mr. Morong, whose body at the same time from the suffusion of bile, was of a dark olive hue. The body, neck and heart frequently turned black soon after *death*, when this was not the case, it generally turned to a deep yellow."

"The spleen, liver, lungs, stomach, bowels and other viscera were often the seats of local congestion. The liver and spleen were subject to considerable enlargement from this cause. The stomach in many cases was affected with more or less inflammation, the patient often complaining of a burning heat, pain and oppression at the epigastrium; being at the same time affected with sickness at the stomach, and vomiting. The matters discharged by vomiting, after the fluids last swallowed, consisted most generally of a dark yellow viscid bile. In many instances, under the operation of an emetic, vast quantities of this were discharged, in others, the matters ejected from the stomach were of a *grass green color*, but much less in quantity than the preceding, and not uniformly blended; but of of a flaky, viscid appearance, with a mixture of slime and mucus. In some, this matter appeared of a dark brown, in others approaching to *black*."

"*Hæmorrhages* from the nose generally took place in the early part of the disease, and were evidently owing to a great determination and consequent accumulation of blood in the vessels of the head. Sometimes *blood* was discharged from the *stomach* by

vomiting; and *bloody stools* were still more frequently observed. In some cases, the flow of blood from the nose was very copious and obstinate; but its effects were generally salutary, though it marked an aggravated form of the disease. In one or two cases, *grumous blood* mixed with the *urine* was observed." Dr. Gantt, who resided in Cahawba during the prevalence of these epidemics, informed the writer, that several cases in which the urine was more or less mixed with blood, occurred in his practice, and that it was not at all uncommon for it to impart a rather red tinge to the sheets and clothing.

"Suppression of urine some times occurred, and in some fatal cases continued nearly two days, without being accompanied with any pain; though a copious secretion of *urine*, or kindly perspiration was a favorable symptom, it often happened that the paroxysms subsided, and convalescence was finally established, without any marked crisis in either of these secretions; yet, in such cases the bowels became free and solvent, easily operated on by laxatives—the morbid matter appearing to be evacuated by *stool*."

"In some cases, *eruptions* in the form of watery blisters appeared upon the surface of the body, more especially about the *mouth* and *nose*, and upon the *face*; then upon breaking, formed into *blackish, scaly incrustations*."

During the prevalence of these epidemics, Dr. Heustis did not have the opportunity of making but one post-mortem examination. In this case, the stomach contained a considerable quantity of a brown *coffee-colored fluid*, with a *black flocculent sediment, resembling soot*; its inner surface was somewhat inflamed. The bile in the gall-bladder was black and viscid, resembling tar in appearance and consistence, and perfectly free from any tinge of green. During the season of 1821, when the disease was more malignant than it was in 1822, he witnessed a number of cases where matter similar to that above described, was discharged both by *vomiting* and *stool*."

Although Dr. Heustis has described, and we think very properly too, these *malarial fever epidemics*—attended in some cases with *hæmorrhages* and *black vomit*, and presenting the *continued, remittent, intermittent, congestive, tertian and quotidian types*,—under

the name of the type variety (remittent) of *paludal fever*; he distinctly informs us (page 399) that the disease was *yellow fever*, and that he might with equal propriety, and in strict conformity with the then received nomenclature, have described it as such. As there are some who may upon the ground of the want of familiarity upon the part of Dr. Heustis with this particular type of fever, pretend to doubt the correctness of his *diagnosis*, it is proper for us to state, to show that his experience was ample, that he speaks of the prevalence in 1809 of *yellow fever* under his care amongst the troops stationed at Terre aux-Bœuff; and in 1812 of a larger portion of three companies of the first regiment of artillery stationed also under his care, at the Barracks in New Orleans dying with the same disease*.

In a very interesting review article, by Dr. J. C. Faget, of New Orleans, (we are informed, if we understand him correctly), that somewhat similar cases to those mentioned by Dr. Heustis, as occurring during the Cahawba epidemics—those attended with yellow skin, traces of blood in the stools and vomit; and red, or bloody urine—are called by the physicians of the island of Madagascar, at Cayenne in French Guiana, and in the West Indies—bilious *hæmaturic fever*, and at Pointe-à-Pître, island of Guadeloupe, where it is perhaps more prevalent than any where else, *yellow fever of the acclimated, and of the creoles*. In New Orleans, a somewhat similar fever, has been called by himself, since 1853, *hæmatamesic malarial fever*; and was mistaken by Drs. Delery and Fenner for true *yellow fever*.†

Selma.—This city stands on an elevated sandy plain, on the (right) west bank of the Alabama river, ten miles above Cahawba, and, on account of existing and anticipated railroad facilities, has received, within the last seven or eight years, an accession of perhaps more than five thousand inhabitants, and has become a point of considerable importance. Notwithstanding the plain on which the city stands is free from ponds, there is, to the north and east, at no great distance, quite an extensive swamp.

It appears from a comparison of all the information that Dr.

* Medical Topography and diseases of Louisiana, pages 89-117.

New Orleans Journal of Medicine, vol. xxii, October No. page 768.

Drake was able to collect at this place and Cahawba, concerning autumnal fever,* that he was brought to the conclusion that the disease prevails less here than there, which might be expected, he thinks, from the difference in their topography. It has not been visited by yellow fever. The same authority continues:

"In a late paper by Dr. Harris, on the Medical Topography of South Alabama, I find the following paragraph:

"'In 1824 the yellow fever appeared in Selma, and that section of the country known as Pleasant Valley, ten or twelve miles north. One case, under Dr. Phillips, terminated fatally on the third day after black vomit, and several cases under my inspection on the fifth and seventh days after the same; some in collapse. There was no yellow fever in Mobile at the time.'"

"It is remarkable that Dr. Heustis, in his paper on the diseases of Cahawba, is silent on this alleged yellow fever, and that Dr. Lewis, in his Medical History of Alabama, has not adverted to it; and equally remarkable that, in the course of a rigid inquiry in 1848 into the fevers of that region, not one of its numerous physicians should have mentioned to me what Dr. Harris has since published."

As it is stated in the paper from which the foregoing paragraph was copied by Dr. Drake, that the information it contained was given on the authority of Dr. Edward Gantt, we consider it nothing more than justice to that gentleman to state that he had previously in Philadelphia, as a Student of Medicine in the office of Dr. Rush, enjoyed opportunities of becoming familiar with the disease, and that he assured the writer he had never since met with, either in Mobile or New Orleans, better or more clearly-marked cases of yellow fever.

From this period this locality escaped a recurrence of yellow fever until the seasons of 1854-5, when it again made its appearance and prevailed.

Montgomery.—This city, the capital of the State, stands amid the cretaceous formations on a sandy terrace, above high water mark, on the east bank of the Alabama river, opposite the extreme south-east extremity of a horse-shoe bend of the same,

* Drake, *Principal Diseases of the Valley of North America*, p. 186-7.

in latitude $32^{\circ} 10'$ north, longitude $10^{\circ} 12'$ west. A range of hills commencing rather abruptly on the south-eastern limits of the city, and running around to the east, form a kind of amphitheater of hill land in its rear, at some points of more than one hundred feet elevation, and giving to the principal part of the immediate plain on which the city stands, a decided inclination in the direction of the river. On the plain to the north-east, there are numerous ponds and marshes, which are thrown into forms more or less elongated and serpentine by oak and pine ridges or narrow plateaux, which gradually become more elevated and hill-like, but still embosom stagnant and swampy streams.

The upper stratum of this tract is a red sandy loam, with beds of silicious gravel. "To the west-north-west there is a margin of low and wetter bottom land, on the upper end of which attempts were once made to build a town, but it proved two insalubrious."*

Since the permanent location of the capital here, in 1847, this city has rapidly increased in population and commercial importance.

Montgomery has been, we believe, from its earliest settlement, infested, to a considerable extent, with all the grades and varieties of intermittent and remittent fevers. In 1853 the yellow fever made its appearance here in a recognized and acknowledged form. It also prevailed the two succeeding years.

Wetumpka.—The towns of East and West Wetumpka, connected by a fine and apparently durable bridge, are situated on both sides of the Coosa river, at the foot of the falls of the same name, and head of steamboat navigation, in latitude $32^{\circ} 30'$ north, and longitude $10^{\circ} 15'$ west. These have been, by legislative enactment, erected into and constitute one city, containing upwards of two thousand inhabitants, the court house and jail of Elmore County, several schools, six churches, and the State penitentiary.

The site of the western town is a sandy, level plain, cut and interspersed with an occasional ravine and swale, and terminating rather abruptly at the river bank, in a high bluff. A small

* Drake, principal diseases of the Vally of North America. Page 387.

portion of this plain in front of the lower part of the town is subject to an occasional inundation. The eastern portion of the city, standing on an elevated, narrow and rather rugged plain, is so completely hemmed in with a range of high hills, extending its whole length, and rising several hundred feet above the level of the river, that at many points there is scarcely space enough between their base and the water's edge for the erection of the necessary business buildings. These hills, composed of a gravelly, dry, micaceous, red loam, sloping back with gentle declivities, and terminating in level tops, surmounted with a forest of pines, chestnut and scrubby oak, afford most desirable sites for the erection of private residences, and from one of which, to the admirer of the works of nature, the prospect is most enchanting. To the south and south-west, as far as the eye can reach, nothing is to be seen but one extended landscape, interspersed with forests and farm houses; while at your feet dash and surge the gushing waters of the Coosa. The agitation of these waters in their passage over the falls causes the evolution of a large amount of vapor, which, descending at nightfall in copious showers of dew, gives to the air in the vicinity an unusual, and at times, an unhealthy degree of dampness.

The river, after entering the limits of the city, runs for the first half mile in a south-westerly direction, when it passes under the bridge, and then shifts in its course more to the south-east; pursuing this direction for about a mile more, it then turns west, and runs in a devious line to its junction with the Tallapoosa.

At low stages of the water the current of the river above the bridge is thrown almost entirely against the western bank, leaving exposed to the action of the sun a large portion of vegetable matter. There are also at low stages of the river, amongst the rocks and shoals, many pools of stagnant water, in which a mass of organic matter is continually undergoing decomposition; one in particular, commencing not far above the bridge, and extending some hundred yards up the river, is a fruitful source of exhalation; a large ravine also extends from the water's edge in the rear of the buildings on Bridge street nearly up to the market house, and receives the filth from the greater portion of this part of the city.

There are also other sources of disease of a local character, within the corporation, on both sides of the river, and also within the immediate vicinity, but as they are similar to those already described, and common to many southern towns and neighborhoods, we will pass them by without any further notice.

Notwithstanding Wetumpka stands on the last out crop of the cretaceous formations, and has been subject, from its first settlement in 1833, to intermittent and remittent fevers, yellow fever, in an epidemic form, has never prevailed. True, we have during our residence here, late in the fall of several years, met with an occasional case of remittent fever, not only on the city plat, but also in the low alluvial grounds, four or five miles south, and for eight or ten miles up the Tallapoosa river, of so malignant a type, that since we have had the opportunity of studying yellow fever in the wards of the Charity Hospital, New Orleans, we are satisfied were sporadic cases of that disease.

In a paper on the causes and treatment of *jaundice*, as it appeared in this locality and its vicinity, during the summer and fall of 1847[†], we remark that the months of January, February and March, were not very remarkable for any thing more than their great *moisture*, *low temperature* and *range*. April and May were throughout showery and cool; June, up to the 20th, was dry; the remainder, together with the whole of July was exceedingly *wet*.

From the 1st to the 23th of August the weather, with the exception of two or three light showers, was warm and dry. Between the 10th and 20th of this month *fever* made its appearance, and although we had a comparatively healthy season, *fever* continued to prevail throughout the remainder of the fall, but as a general rule of a mild *grade*. The months of August and September, with a comparatively high mean temperature, 81° and 76°, respectively, were the months in which the first cases of fever, accompanied with a yellow, or *jaundiced* color of the skin, made their appearance, under a continuation of an apparently similar occult atmospheric condition, but with a somewhat lower temperature and wider range, throughout the succeeding months of Oc-

[†] Western Journal of Medicine and Surgery, vol. ii, July No., 1848. Page 27.

tober, November and December; occasional cases of *fever*, complicated with *torpid liver*, and *yellow skin*;—and simple cases of jaundice, *without fever*, continued to occur until near, or even after mid-winter. In illustration to some extent of the character of the prevalent *fever* of this summer and fall, we will now introduce the following case, and fact: On the 24th of August we were called in consultation with Dr. S. Williams, in the case of a young man residing some twelve miles in the country, near the Tallapoosa river, in the low grounds of which he had been laboring as a field hand, up to the time of his attack some eight or ten days previous. Found him upon our arrival, *stupid*, and inclined to incoherent muttering when lying undisturbed, vomits occasionally without much nausea, a very *dark bile*, headache, bowels loose, passages consisting of a *dark grumous matter resembling a mixture of blood and bile*.

Skin over the whole surface of the body of an exceedingly yellow hue, tongue coated with a dark brown fur down the centre, and over the base, with red edges, adnata of the eyes *yellow*, surface dry and hot, head and precordial region preternaturally so, most heat of skin and excitement of pulse, between three and 10 o'clock of the afternoon and night. Blister over the umbilical region discharging very freely, a yellow serum, *urine* scanty and of a deep yellow hue, tinging the sheets of the same color, pains in the loins, and large joints, with occasional *fits of restlessness*. Considering the condition of this young gentleman hopeless, we advised nothing more than an anodyne, and took our leave; he expired some time during the night. Shortly after the occurrence of this case, (in September,) an overseer on a neighboring plantation, lower down the river, and nearer this city, *sickened and died* of what his physicians pronounced *Jaundice*.

Mississippi.—The surface of this State has a general slope to the south-west and south, and its principal rivers, with the exception of a small section to the south, have their courses in the same direction.

The coast, which extends along the Gulf of Mexico for about sixty miles, has a chain of low islands, six or seven miles from the shore. These enclose several bays or sounds, the largest of

which are Pascagoula Sound and Lake Borgne. The southern part of the State, for about one hundred miles from the Gulf of Mexico, is mostly a sandy, level pine forest, interspersed with cypress swamps, open prairie and inundated marshes, with a few hills of moderate elevation. This region, by cultivation, produces cotton, indian corn, indigo, sugar-cane, plums, peaches, figs, sour oranges and grapes. The western border, on the Mississippi, for about one hundred and seventy miles in length by fifty or sixty in breadth, and through which the Yazoo river flows, is an extensive swamp.

The prairie, or Tombigbee section, covering the north-eastern part of the State, and extending far down on the Alabama line, is uniformly level, with scarcely a tree, dotted here and there with pools and marshes, and intersected with sluggish streams. The soil of this region is a dark heavy loam of surpassing fertility, and of the same geological composition as that of the adjoining prairie country of Alabama.

The upper portion of the State, known as the Chicasaw Cession, has a rolling surface, and an open, champaign appearance, being free of undergrowth, and beautifully wooded with oak and hickory. The upland of this section produces abundantly, but the substratum of the country being sandy, the productions are soon ruined by the heavy rains. The valley lands are much more durable and productive, the soil being heavier and darker; but they are liable to be, and frequently are, submerged, acres at a time, under billows of sand washed from the uplands. Cotton is the staple product.

Jackson.—This city, the capital of the State, we are informed by Dr. S. C. Farrar, stands on the west bank of the Pearl river, in lat. 32° 20' north, long. 13° 8' west.* Geologically considered, it is near that well-marked boundary which separates the tertiary from the secondary formation, or, more particularly the cretaceous beds of the latter from the eocene marl of the former. "Between the river and town, to the north-east and south-west, lie extensive low grounds, covered by a dense forest, and subject to annual inundation."

* *Fenner Southern Medical Reports*, Vol. I. page 345.

For several years after the first settlement of this locality, it was subject to the most violent grades of intermittent and remittent fevers. Latterally, however, these have become more mild and manageable; but, notwithstanding this change, according to Dr. Farrar, pneumonia and dysentery frequently exhibit a paroxysmal and strictly periodic type. Tertian intermittents are also sometimes complicated with fixed pains of the head, breast, back or limbs, so as to personate, with great exactness, a phrensy, pleurisy, hepatitis, or rheumatism—especially if the apyrexies are obscure or imperfect.

West Tennessee.—Near the sources of the Yazoo river, and on the northern boundary of the State of Mississippi, the Tennessee river approaches within 125 miles of the Mississippi river; here meeting the high lands of north-western Alabama, it turns almost directly north, and in this direction crosses the State of Tennessee, the western part of Kentucky, and empties into the Ohio river at Paducah about thirty miles on a straight line from the Mississippi river.

As the water shed of this region is everywhere very near the Tennessee river, much the larger streams of the western district descend westwardly to the Mississippi. Of these the Wolf, the Big Hatchee, Forked Deer and Obion are the principal.

The surface of the whole district, every part of which belongs entirely to the cretaceous formation is either level or undulating, "except near the streams, and between their sources, and those of the tributaries of the Tennessee, where it becomes more elevated and hilly."

As a specimen of the level region, we are informed by Dr. Dashiells, of Jackson, that "the portion known as the Forked Deer Valley, and which extends from the counties of Hardeman and McNairy on the east, to the Mississippi on the west, is along the river, low, swampy, heavily timbered, and subject to annual inundation; and on the recession of the water from these low grounds, after one of these spring overflows, numerous ponds are left partially filled with dead vegetable matter, to be carried off through the summer by the slow process of evaporation.*" We are also further informed by this writer "that the spring season

of this region is exceedingly variable, the summer and fall warm and sultry, and the winter moist and cold—the thermometer frequently indicating a variation of thirty degrees in twelve hours.”*

Intermittent and remittent fevers of every grade and variety prevail throughout the entire district, occurring some autumns, in certain localities, with considerable violence.

Arkansas.—The surface of this State presents great variations in its physical configuration along the Mississippi river which marks its eastern boundary; and from ninety to one hundred miles inland, the country is low and widely interspersed with lakes and swamps, and, with inconsiderable exception, is annually overflowed by the floods of the Mississippi, Arkansas and St. Francis rivers. Further west the surface rises, toward the centre of the State becomes moderately hilly, and still further west rises into the Ozark mountains; beyond these the country spreads out into elevated and gradually rising plains, which terminate only with the Rocky mountains. On the margin of all the rivers the soil deposited by the floods over thousands of acres is a rich alluvion, and very productive; back from these it is very sterile, being, in some parts, either from scarcity of water or metallic impregnation, unfit for cultivation. Of this State the principal forest growths are pine, cypress, sycamore and oak.

Port Smith.—This south-western station at an elevation of 460 feet above the level of the Gulf, stands on the south bank of the Arkansas river, at the mouth of the river Poteau; near the western boundary of the State of Missouri, latitude $35^{\circ} 22'$ north, longitude $17^{\circ} 29'$ west.

Its immediate vicinity abounds in lakes and swamps in every direction; upon the subsidence of the water flow, and the exposure of the surface of some of the latter, which are annually overflowed, to the action of an intensely hot July and August sun, its garrison sometimes during the fall suffer severely from malarial fever of the *intermittent and remittent* types. In September, 1823, we are informed by Doctor Finlay,† that the prevailing fever assumed a very violent grade of action; the patient

* Memphis Med. Recorder, March No., 1855, page 358. † Medical Statistics, p. 229.

being attacked with chilliness, succeeded by *fever*, and general pains, most severe in the *head* and *loins*, with excessive irritability of the stomach, attended in some cases with the vomiting of a black matter, resembling *clotted blood*; red and painful eyes, with a quick soft pulse. After the first 12 or 18 hours, delirium ensued, and the tongue became black, rough and dry; the patient finally expiring, either comatose, or in convulsions.*

"If this was yellow fever, (says the editor of Dr. Drake's work, and which he appears to think it was,) it must have been *indigenous*, as steam-boats in 1823, scarcely ever reached this point, and could not have done so in July and August."†

Indian Territory.—This territory lies directly west of Arkansas, south of Colorado and Kansas; and east and north of Texas. It has been set apart by the government of the United States for the permanent residence of various Indian tribes, removed hither chiefly from the Southern States. It is now principally occupied by the Cherokees, Creeks, Choctaws, Chicaws, and Seminoles; these tribes have made considerable advance in agriculture, and the industrial arts.‡ "The surface in the western part is elevated and rolling; thence it falls gradually to the south-east, where it again becomes broken.|| North of the Wichita and Washita hills, and the hilly region that terminates south of Fort Smith in the Masserne, or Ozark mountains, is a *fine prairie* country, very well adapted to grazing and tillage. Its principal rivers are the Arkansas, and Red, and their tributaries. *Tahlequah*, the capital of the Cherokees, lies a little to the south-east of Fort Gibson.

Fort Gibson.—This post is situated, measuring from a point near the mouth of the Sabine river, about four hundred and twenty-five miles north of the Gulf of Mexico, "on the east bank of the Neosho or Grand river, and about forty miles west of the western line of the State of Arkansas, in latitude 35° 47' north, longitude 18° west. The site of the fort is about one hundred yards from the bank of Neosho, and three from its mouth. About a mile and a half to the south-west, toward the

* Drake, vol. II. p. 286.

† Ibid, vol. II. p 286.

‡ Monteith and McNally's Geog. series, No. 5, 1868, pp. 47. || Mitchell's Geog. p. 179 S9.

Arkansas river, is a lake surrounded by marshes, and as its level varies little from that of the fort, the drainage of the latter is consequently very defective. As the fort was originally located in a cane-brake, the soil partakes, in a very high degree, of what is designated in the language of the country, "river bottom land." It is skirted on three sides by an elevated prairie, about four miles in extent, environed by a chain of hills. The opposite side of the river presents a cane-brake, extending a mile above and below the fort, interspersed with lakes and marshes toward the south-west. The soil is of a character admitting of the most prolific cultivation. Indian corn is the staple commodity; and of mineral productions, the principal are coal and salt.

As regard thermometrical observations, it is found that the mercury rises higher at this point, than at any other in the United States, with the exception perhaps of Fort Yrema, in Southern California. The mean annual quantity of rain, based on three years' observations, is 30.64 inches; and the prevailing winds, which are southerly from the Gulf of Mexico, traverse the marshes and lakes above described.

"It thus appears that all the circumstances most conducive to the evolution of malaria are present; the soil is alluvion; solar heat is of the most intense character, and the quantity of rain, although adequate to the maintenance of a certain degree of moisture, is not sufficient to overflow the low lands during the summer season."*

As the result, perhaps, of a general malarial impress, we are informed by Surgeons Pitcher and Wharton, that cases of pleurisy, cholera morbus, dysentery, diarrhoea and rheumatism occurring at this post frequently assume a strictly periodical character, from which, together with their subjection to the same remedies that are found to arrest the course of intermittent fevers, their close alliance, if not common origin, is inferred.

As regard the prevalence of intermittent and remittent fevers, according to the Army Medical returns, this is one of the most unhealthy posts permanently occupied.

In the vicinity of this post, there prevails among the Cherokee

* Forny, on the Climate of the United States, p. 184.

and Creek Indians, during the winter and spring, a *fever*, in which the local lesion is either in the *brain or lungs*, most generally the latter. *This variety of fever*, we are informed by Dr. Coolidge,* he treated very successfully as a *Pneumonia*, during the winter and spring of 1845-7, even when there was extensive inflammation of both lungs present, by moderate bleeding, external irritants, mercurial cathartics, and quinine in sufficient doses, *ten or twenty grains, to check the fever*, which it always did.

Florida.—This State lies entirely upon the Atlantic plain, and is generally, by geographical writers, divided into east, west and middle Florida. Although the natural lines, if they exist at all, separating these divisions in some places are so indistinctly marked upon the maps, as to be scarcely noticeable, we hope they will not be entirely lost sight of in the study of the following topographical sketch: South of the *twenty-eighth* degree of north latitude, the surface of the country rises but very little above the water line, or dead level; and, with the exception of a belt extending around the coast, consists almost entirely of an endless succession of *savannas, swamps, grass-ponds* and small lakes; and known as the “*Everglades*.” To the north and north-west of this low alluvial tract up to the Georgia and Alabama lines, the surface of the country although more elevated, and in some places somewhat undulating, nowhere rises higher than two hundred feet above the level of the ocean. The whole of this north-western region, consists principally of an extensive *pine forest*, interspersed with *prairies, hummocks, ponds* and *swamps*. The prairies are some time pretty extensive, stretching miles in length and breadth, and forming most excellent natural pastures. The soil of the swamps along the rivers is *alluvial*, and they are generally covered with a heavy growth of timber, those in the pine barrens, with cypress and cypress knees. The *hummocks* are rich bottoms with a clay soil mixed with sand—these hummock lands are scattered throughout the State, and vary in extent from a few acres to thousands, and when cleared are very productive. Their forest growth consists of pine, dogwood, persimmon, magnolia, cypress, hickory, pride of China, and the

* Medical Statistics, U. S. A. p. 169-70.

different varieties of oak, of which the live oak is the most abundant and valuable; in addition to these are found in some places on the *Peninsula*, maple, hawthorn, mangrove, palmetto, cabbage-palm, magnolia grandiflora, oleander, lignum vitæ, mahogany, crab and satin wood. Besides an almost endless variety of flowers and flowering shrubs, in some localities the different varieties of cactus and magney (or *Agava Americana*) are met with. The surface of the country from near Tampa Bay, to within twenty miles of the Kissimmer river, although low and interspersed with marshes, some of which are *dry* during the winter season, is rather more elevated than it is from the latter point across to Indian river. The banks of all the different streams of this portion of the *Peninsula*, are skirted with a thick and luxuriant growth of *trees, bushes, vines and mosses*. Geologically, the State is composed of the *tertiary* and *cretaceous* formations, resting upon a sub-strata of "*rotten limestone*," the peculiar stratified structure of which is probably the cause of the occasional sudden disappearance of small streams and lakes, and of the numerous cavities scattered over the country called *sinks*. The low ridge or water shed, which divides the streams on the east, from those on the west, descends south from the Georgia line, and disappears a little to the north-east of Fort Brook, at lake *Tohopkalika*. The principal rivers of the *Peninsula*, and north-eastern part of the State, are the Pea, Kissimmer, Indian, St. Johns, St. Marys, Suwanee and Withlacoochee. Those on the west are the Apalachicola, formed by the union of the Coattahoochee, and Flint rivers of Georgia, and the Choctawhotchie and Escambia, continuations of the Pea and Comanch rivers of Alabama. For the want of proper materials, we are unable to give a description of any of the many beautiful lakes scattered over the State. The margins of those upon the *Peninsula*, are generally marshy and overgrown with grass, cypress, the cabbage palmetto, and a thick tangled undergrowth of bushes, vines and mosses. The water of lake Okechobee, is reported by Dr. Babcock* to be during the months of May and June, almost *putrid* in *smell* and *taste*, and rather unhealthy.

* Medical statistics, U. S. A. p. 158.

Bay of Key Biscayno.—This beautiful sheet of water is situated on the south-east coast of the Peninsula, and is from “Cape Florida to its head about twenty-five miles long, with an average width of two and a half miles, although it contains numerous shoals, there is always in the channel from five to eight feet depth of water.”* The Miami river, a tributary of this Bay, originates in the *Everglades*, four or five miles to the west of its confluence, where it is about one hundred yards in width, with an average depth, at high tide, of about six feet. The surface of the whole country, extending from the *Everglades* to the shores of Key Biscayno bay, is subject, during the rainy season, to inundation. The soil of the hummocks and prairies of this region consists of *rotten limestone*, mixed with vegetable materials, and on account of their fertility and the mildness of the winter climate of this portion of the Peninsula, are better adapted to the cultivation of sugar-cane and sea island cotton than any other section of the State.

Besides the agricultural staples of cotton, rice, sugar, indigo, tobacco and maize, in common with nearly of all our southern borders, but more particularly on the Peninsula, are grown the fig, date, orange, lemon, citron, pomagranate, bananna, olive, tamarine, papaw, guava, cocoanut, cocoa, plumb, and alligator pear; in addition to these tropical fruits, grow the palma christa, butter bean and arrow-root.

South of the main land a chain of small, rocky islands, known as the Florida Keys, extend to the northward, ending in a cluster of rocks and sand banks called the Tortugas. Of these there is but one, in a medical point of view, that we consider worth notice, and that is Key West, or Thompson’s Island. This island, the most southern settlement of the United States, lies about sixty miles south-west of Cape Sable, and between eighty and ninety miles north of the city of Havana, and contained, in 1854, about three thousand inhabitants. It is from seven to eight miles long, with an average breadth of about two miles. As regards its general surface, it is low and level, the south-eastern shore presenting the most elevated point. This ridge, consisting chiefly of sand and shells thrown up by the sea, rises about five feet above high

* Medical statistics, U. S. A. p. 149.

water mark. In the interior of the island are found many marshes and lagoons, some of which are lower than the surface of the surrounding ocean. These marshy low-lands, with a layer of soil sufficient to support vegetable growth, and shaded by small trees and shrubs, are covered, in some parts, during the rainy season, with fresh water.

Land and Sea-breeze.—Between eight and nine o'clock in the morning, the sea-breeze sets in, and blows until between seven and eight o'clock in the evening, when the two currents being in *equilibrium*, a calm occurs; shortly after this time, the land breeze commences, and continues until the commencement of the calm, the next morning. The sea-breeze on the coast, says Dr. Southgate,* springing fresh from the bosom of the ocean, is mingled with no deleterious agent, and by communicating a refreshing element to the atmosphere, exerts a benign influence upon the system, during its subjection to elevated and protracted atmospheric heat. In the interior, says Dr. Letherman,† where the invigorating effects of the sea breeze are not felt, the *warmth* and *moisture*, during the summer, produce upon exertion a sense of exhaustion, greater or less, in proportion to the amount of exercise taken, which sometimes requires *remedies* for its removal.

Rainy Season.—From the commencement of the rainy season, which occurs in the latter part of May, or the first part of June, and terminates sometime in September, rain falls in gentle showers almost every day, sometimes so abundantly as to flood the country, and render portions of it almost impassable. During this season violent storms, accompanied with *thunder and lightning*, frequently occur.

The mean annual temperature of the State may be stated at about 72°, that of the summer at 82°, and of the winter at about 67°. The mean summer temperature is perhaps a little higher in the interior than it is on the coast, and in the winter, a few degrees higher on the coast, than in the interior.

Key West Barracks.—This military station, which was at one period the principal naval station of the United States for the

* Medical Statistics, U. S. A., p. 333.

† Medical Statistics, U. S. A., p. 331.

Gulf of Mexico, stands on the north-west end of Thompson's Island, in latitude $24^{\circ} 33'$ north, longitude $4^{\circ} 52'$ west. Notwithstanding the garrison, in April, 1833, in consequence of sickness, had to evacuate this post and occupy temporarily that of Fort Clinch, we are informed by Dr. Forry, that he was unable, on account of the defectiveness of the Army Medical returns, to determine the precise character of the prevailing diseases, but concludes very *erroneously*, as subsequent experience has shown, that *fevers of malarial origin*, were not very prevalent.* Yellow fever prevailed here as an epidemic in 1824, and also again in 1854. During the latter year, we are informed by Assistant Surgeon Simpson, that the fever first made its appearance near the centre of the town, in the immediate vicinity of a large pond, which had been the receptacle for quantities of filth and decayed vegetable matter; and that radiating from this point, it gradually spread over the whole island, attacking indiscriminately *both whites and blacks*: he expresses the opinion that it was of local origin.†

Fort Brooks.—This port stands at the head of Tampa bay, on the east bank of the estuary of Hillsboro river, latitude $27^{\circ} 57'$ north, longitude $5^{\circ} 15'$ west. The river at its mouth, although very much contracted a few miles above, is said by Dr. Drake to be one hundred and thirty yards wide, and entirely free from *alluvial deposits*.‡ “The general hospital established here at the commencement of the Seminole war, is situated on an elevated piece of ground in the immediate vicinity of the river, is handsomely encircled by a small grove of live oak trees, which not only add to its beauty, but at the same time afford a cool, refreshing shade to the invalid. The general aspect of the country is low and level. *The drainage is good.*§ This port, says Dr. Forry,|| has always been regarded as a delightful station, and highly *salubrious*, in which tropical fruits, such as the lemon, orange and fig, flourish luxuriantly, whilst the moss-covered live oaks and pride of China, add beauty and variety to its scenery. When

* Forry, *Climate United States*, p. 217.

† *Medical Statistics*, p. 323.

‡ In the early part of 1835, all the orange groves in the northern half of the Peninsula, were destroyed by frost, an occurrence previously unknown.

§ Drake, vol. I. page 49. || *Med. Statistics, U. S. A.*; page 323. † *Climate United States*, page 46–253 *Med. Statistics*, page 335.

the *wind* blows from the interior of the country, after it has been flooded, and dried under the influence of a *tropical sun*; *severe forms of intermittent and remittent fever* sometimes prevail. As far as we have been able to learn it has suffered twice from *yellow fever*, once in September 1849, and again in 1853†.

Fort Dallas.—This post stands on a bluff, at an elevation of about fifteen feet above low tide, on the north bank of the *Miami* river, immediately at its junction with *Key Biscayno Bay*, latitude $25^{\circ} 55'$ north, longitude 3° west. There are no ponds or stagnant water nearer this port than the *Everglades*, four or five miles north-west. The soil consists of loose sand, mixed in places with an alluvial deposit. The formation is a porous rotten limestone, which in many places appears above the surface. Water is found by digging at the depth of fifteen or twenty feet, in abundance, but slightly impregnated with lime. In its vicinity there are also many banks of large and small shells. The soil of the adjoining pine barrens, consists of silicious sand, mixed with vegetable, and other matter. The *hummocks* are the most productive of any others of the coast. Drs. Akins and Simpson, from whose report the foregoing medico-topographical account is compiled, inform us that *frost* rarely ever visits this locality, and that the temperature is remarkably uniform, never exceeding a mean monthly *variation* throughout the year of over 16° , in fact that Spring eternal reigns, and *fruits, flowers and vegetables* are always present. It is very little subject to *intermittent or remittent fever*, and is regarded by Dr. Simpson as one of the most healthy military stations in the State.

Fort King.—This interior military station, for a long time the *Seminole* agency, stands at an elevation of about fifty feet above the level of the Gulf, on the dividing ridge, that separates the waters on the east, from those that flow into the Gulf on the west; latitude $29^{\circ} 10'$ north, longitude $5^{\circ} 12'$ west. With a mean annual temperature of $71^{\circ} 48'$ and mean summer temperature of upward of 80° , and surrounded by extensive marshy low lands, swamps, and stagnant pools, containing organic

† Med. Statistics, U. S. A., page 331. 3. Med. Statistics, U. S. A., page 149-50-322. Med. Statistics, U. S. A., page 309.

materials in abundance, it has always been subject to *fever and ague*. During the fall of 1837, we are informed by Dr. Forry, "from the exposure to the action of the sun, of the surface of a neighboring hummock, by the removal of its small trees and undergrowth, to guard against indian ambuscade, its garison suffered severely with a high ratio and grade of intermittent and remittent fevers."*

Endemic febrile influences.—As regards these, we are informed by Dr. Southgate, that of the one thousand emigrants landed in East Florida, during the summer of 1767, under the care of their prudent conductor, Dr. Turnbull, one fourth of them died of *fever* within a very short time after their arrival,—hence he concludes (and in which opinion we fully concur), that it is a weak *enthusiam* to contend that Florida, with her moist atmosphere, her fertile swamps and hummocks, filled with decomposing organic materials, under the influence of a *tropical* sun, is the healthiest country in the world. That there are localities, even small districts around her generally salubrious coasts, in which during some falls, almost entire immunity from *febrile* disorders are enjoyed, is doubtless true, whilst it is equally as true, there are others in which *intermittent and remittent fevers* of every grade and type, annually prevail to a considerable extent.

Louisiana.—The surface of this State is low and generally level, with some hilly ranges of little elevation in the western part, and with numerous basins or depressions. The great delta of the Mississippi, included within the Atchafalaya and Iberville, and amounting to one-fourth part of the area of the State, is seldom elevated more than ten feet above the sea, and is annually inundated by the spring floods. A great part of the delta is composed of sea-marsh, which also forms the whole southern coast to the Sabine, and which, through its whole extent, is subject to inundation by the high tides. To the north of this marsh spreads out the vast level of the prairies, which is but little elevated above the former district. The western margin of the Mississippi is also a low country, intersected with numerous small rivers, and liable to inundation. To the west and north of

* Climate of the United States, p. 212.

these is an extensive region considerably broken, but nowhere exceeding two hundred feet in elevation. It consists mostly of pine barrens, interspersed with elms, cypress and honey-locust. The tract east of the Mississippi and north of the Iberville and the connected lakes, closely resembles the last in surface and forest growths. It is in fact, a part of the same upland plain, whose margin on the western side is separated from the river bed by the low inundated lands, but on the east comes up to the channel of the river, in many places forming those prominent bluffs, on which stand Baton Rouge, St. Francisville, Fort Adams, Natchez and Vicksburg.

To conclude the foregoing geographical account, and present a full topographical outline of the States of Mississippi, Arkansas and Louisiana, we will now have to devote a separate section or two to a description of the Concordia, Yazoo and St. Francis bottoms.

The first of these, commencing at the mouth of Red river, under the thirty-first degree of north latitude, and extending up entirely between the Mississippi and the cretaceous pine-woods plain on the west, with its greatest breadth, where it is traversed by the Arkansas and White rivers, terminates at the high lands in the rear of the town of Helena, Arkansas. This bottom being traversed by the Ouchita and Tensas rivers, has scattered over its surface the beautiful lakes of Villemots, Providence, St. Joseph, Concordia, Lovelace and Catahoola, together with innumerable lagoons and extensive swamps.

Of this bottom the plantations along the Mississippi, the larger bayous and its numerous lakes, constitute, as yet, nearly all of its redeemed and habitable land. Near Helena, and between the mouths of the White and St. Francis rivers, where the Concordia bottom ends, commences the St. Francis bottom, which, after extending up the west side of the Mississippi to a little above the thirty-seventh parallel, terminates at the low hills about thirty miles above the mouth of the Ohio. This bottom, a greater portion of which is a forest of cotton-wood and canebrakes, like the one just described, also abounds in small lakes, lagoons and extensive swamps.

Returning now to a little below the thirty-second degree of north latitude, and crossing over to the east side of the Mississippi river, we strike the lower end of the Yazoo bottom, which commences where the bluff begin to recede from the river just above Vicksburg, and terminates where they return to it a short distance below Memphis. The only river of this bottom is the Yazoo, which, after its formation in Carroll county, Mississippi, by the Tallahatchee and Yallahusha rivers, flows in a south-westerly direction into the Mississippi. Besides the Sun Flower, many smaller bayous flow off through the interior of the bottom, from Lakes Washington, Swan, Bolivar, Horseshoe and Horn.

This great alluvial region, extending from the mouth of Red river to the upper end of the St. Francis bottom, a distance of more than four hundred miles, with its greatest breadth (about ninety miles) opposite the mouth of the Arkansas, and supposed to contain more than twenty thousand square miles, is, notwithstanding the levees constructed for its protection, during the March and June freshets of the Mississippi and its tributaries, with few exceptions, annually submerged. On the subsidence of the water after one of these spring overflows, from topographical peculiarities, there still remains a large amount to be carried off by percolation and evaporation. Under these influences, although the surface in many places, before the first of September, becomes dry and cracked, there still remains enough of water in the streams and innumerable lakes to give, through the process of evaporation, to the air of the surrounding country, a considerable degree of dampness.

As might be expected, the inhabitants of these bottoms and their few villages, together with the towns and cities on their borders, or within their influence, are subject to malarial fevers of every variety and grade.

New Orleans.—This city stands in a large bend on the east bank of the Mississippi river, about ninety miles in a direct line from its mouth, in latitude $29^{\circ} 57'$ north, longitude $13^{\circ} 9'$ west. Its boundary in front extends along the river about five miles. In the rear, the corporation extends to Lake Pontchartrain, though the habitations at present only reach in this direction

about two miles. The southern front of the low, alluvial surface upon which the city stands is considerably below the annual elevation of the river, with its northern portion below the occasional rising of the lake. On account of this geographical peculiarity, the city has to be protected from inundation (and which, we believe, has been effectually accomplished), by the erection of strong and extensive levees.

“The intermediate space between Lake Pontchartrain and the city is a cypress swamp, presenting about midway a considerable elevation called the *Metairie Ridge*. This vast swamp has undergone a wonderful amelioration within the last twenty-five or thirty years; the part within two miles of the city has been thoroughly drained, by which means, a large extent of valuable land has been reclaimed, and which, in a few years, will be covered with buildings and gardens. The surface is gradually becoming more elevated; the streets are annually extended in this direction; and thus the spot which a few years ago was a *pestiferous fen*, will, probably, soon become the abode of a dense and active population.”*

On account of a counter current, or rather eddy, which exists in the Mississippi river, from some point in the third, to a point in the second District, there is continually depositing along its bank, in front of the city, an alluvial formation, which has received the name of *batture*. The streets along the river adjacent to, and in front of this *batture*, are compactly build up, and from the dwelling houses, taverns, drinking houses, warehouses, market houses, oyster sheds, sugar wharves and cotton presses, vast quantities of filth and organic materials, find their way to the water's edge, and are deposited on this sub-aqueous *formation*. On the subsidence of the river from July to November, this margin extending along the river for more than three miles, filled with all kinds of organic *recrements*, accumulated from this city, the shipping and water of the Mississippi, and exposed to the action of a July *tropical sun*, must and does, as a matter of course, emit gases more or less deleterious to health.†

* Fenner's Southern Medical Reports, vol. I. p. 17.

† See Drake, vol. I. p. 102.

Besides these supposed sources of fever, we are informed by Dr. Fenner that there are also within the corporation a considerable number of vacant lots, the surface of many of which are lower than the level of the streets, and contain, during wet weather, stagnant water; stagnant water is also found under many of the houses.*

* * * * *

From the foregoing medico-topographical description, together with its decidedly southern latitude, the inhabitants of this city are, as a matter of course, subject to every grade and variety of malarial fever; those residing adjacent to, or within the swamp, being less liable to yellow fever, and more to intermittents and remittents, than those residing on the opposite or river side. Upon this subject Dr. Rene LaRoche remarks that while *intermittent* and *remittent fevers* are ascribable to the decomposition of herbaceous matter, the ordinary component of *marshes* and *paludal localities*; *yellow fever*, properly so-called, is probably due to the influence of *liqueous decomposition*, evidently an unnecessary refining, and clearly a distinction without a difference.†

Fort Livingston.—The island of *Grand Terre*, upon which this fort stands lies at the junction of Barataria Bay with the Gulf of Mexico. The surface of the island rises about two feet above the highest tides of the Gulf, and consists of a dark sand, covered with grass, and over-shadowed with small live oaks.

From the middle of May, to the middle of August, although there occur tolerably well marked *land* and *sea breezes*,‡ from the small size of the *island*, together with perhaps the near approximation during this season of the year of the temperature of its air to that of the Gulf§, the former often entirely fails, whilst the latter not unfrequently continue through the night. For the remainder of the year the *winds* are variable.

Captain Barnard, who had been stationed four years on this island, informed Dr. Drake, that although the mean population during this period had been about fifty, that he was unable to

* Fenner, Southern Medical Reports; vol. 1, page 53.

† LaRoche on yellow fever, vol. ii, page 618.

‡ Drake, vol. i, page 86.

§ Clark on climate, page 152.

recollect of the occurrence amongst them of a single case of either *intermittent or remittent fever*; and that the same was true as regarded yellow fever, notwithstanding the usual intercourse had been kept up with New Orleans, when the fever was epidemic there.

Fort Pike.—The island of Petites Coquilles, upon the northern margin of which stands this fort, seems to have been originally formed of a congeries of small shells, with an admixture of argillaceous deposits brought down by Pearl river. It lies thirty-five miles north east of New Orleans, and between Lakes Pontchartrain and Borgne, exhibiting an area of seven by twelve miles, with an elevation over the Gulf of not more than two feet. Although it is intersected by numerous bayous of salt water, their bottoms never become a source of malaria, as they are under the influence of the tides, and, consequently, are never exposed to the action of the sun. The prevailing winds during the summer are from the Gulf of Mexico, and its soil is said to be fertile.

According to the Army Medical Returns, this post has remained constantly exempt from yellow fever, the average ratio of intermittents being nineteen and that of remittents seven per cent.

The fact that Key West, lying at as great a distance from the main land as Fort Pike, and surrounded by salt water and marshes, has been scourged with yellow fever, inclines us to the opinion that the cause of the remarkable salubrity of this post, compared with Fort Wood, about twelve miles to the northeast, surrounded by marshy low-lands, and under the influence of the immense swamps that skirt the Mississippi, is more the result of the want of a sufficient quantity of organic material undergoing decomposition, than it is, as some have supposed encompassed with salt water.

Upon the subject of whether *saline vapor* exerts upon topographical condition any influence whatever, in either the production or prevalence of malarial fever, we are informed by Dr. Drake, that in the manufacture of salt at *Syracuse* and *Salina*, New York, the escape of a large amount of *vapor* into the surrounding atmosphere, containing a *minute* quantity of salt, had

not *diminished* the prevalence of *intermittent* or *remittent* fever in either of these *localities*; and that particularly on the western and southern edge of the former, where the water is evaporated on quite an extensive scale, from wooden pans, entirely by *solar* heat, *intermittent fever* was very prevalent. While here, Dr. Drake was assured by Drs. Hoyt, Daniels, and Lovejoy, that the *venous* blood of the salt boilers, was nearly as *florid* as that of the *arteries*, and their complexion *ruddier* than that of the surrounding *population*.*

ART. II.—*Hæmatemesic Paludal Fever, observed at New Orleans* :
By Dr. J. C. FAGET.

"*Scribo in aere Romano.*"—BAGLIVI.

WHOEVER is acquainted with the history of Yellow Fever, will perceive that Professor Aitken has perfectly recapitulated the actual state of Science, in the following terms, page 453, vol I, of his Work, styled "Practice and Science of Medicine": "Yellow Fever must now be regarded, from an enlightened consideration of its history, as one *sui generis*, and specifically different from remittent and intermittent fevers, or any other form of malarious fever." (Cullen, Chisholm, Blanc, Wood, etc.)

Yellow fever is one *sui generis*! Yet, it has no *characteristic* or *pathognomonic* sign; *black vomit* even is not such for it. It is only by the agglomeration and co-ordination of its symptoms, by its origin, and modes of importation, development and cessation, by its *march especially*, and some other peculiarities, that it may be distinguished from other types, and thus essentially constitutes a *truly morbid species*.

Ten years ago, I deemed it necessary to enter into quite a lengthy detail of the two following propositions, pages 5 and 12 of my pamphlets of 1859: 1st—"Black vomit appears in other fevers than yellow fever"; 2d—"The association of black vomit with jaundice, and various forms of hæmorrhage, is met with in other fevers."

With regard to the aim which I actually hold in view, I shall

* Drake, Principal description Interior Valley, North America, vol. I. pages 404 694.

simply reproduce the passage wherein Dr. Laroche, in his great Work, has established the same truth: "*The black vomit being only an accident, occurring in many diseases, distinct from yellow fever, and even often absent in the latter cannot be viewed as characteristic of it, or as alone sufficient to demonstrate the true nature of the cases in which it may occur.*" (Page 436, vol. I).

The true yellow fever, deprived as it is of any characteristic, does not for this remain less a morbid type, being certainly due to a morbid element, if not as specific as that of variola, scarlatina, roseola, etc., at least as genuine, distinct or special, as those of cholera, pest or typhus. With regard to that important subject, I beg leave to refer the reader to my fourth letter, "on the intimate origin and characteristics of yellow fever," read to the Medical Society of New Orleans, and published in the April Number, 1860, of their French Journal.

My object in view now is to show that it is unjustifiable to confound the hæmatemesic paludal fever with yellow fever. The reasons which forbid this confusion are as simple as they are decisive; I will endeavor to establish them in the following order:

1st.—The yellow fever, as observed in New Orleans, is a fever of only one paroxysm; the march of this paroxysm is the decreasing continued.

2d.—Paludal Fevers, as a general rule, even when apparently continued, are, at New Orleans, paroxysmal fevers.

FIRST PROPOSITION.—The yellow fever has but one stage of three or four days duration, regularly decreasing.

This short duration of a violent, but sole paroxysm, rapidly and regularly decreasing, must have certainly struck the first observers who studied yellow fever. In his chapter xx (Types of the Yellow Fever, page 426), Dr. Laroche expresses himself thus: "A febrile stage of about seventy hours duration, more or less, is succeeded by a period of calm or complete cessation of fever. . . . This state of remission—the *stadium* of Lining, the *metatopsis* of Moseley—occurs at the period mentioned, with greater or less abruptness. It is seldom or never followed by a recurrence of febrile excitement, and is observed in the large majority of

cases, indeed in all. . . .” And, at page 428: “This remission or rather sudden cessation of fever after one long paroxysm—the only one which occurs—may be regarded in the light of a well ascertained fact. It is very seldom, if ever, succeeded by symptoms of vascular reaction, but by an apyretic condition, during which, in severe and aggravated cases, the more malignant phenomena present themselves. It constitutes a marked and distinctive characteristic of yellow fever, and is pointed out as such by every writer and in every clime.”

Yellow fever, may, therefore, strictly speaking, be viewed as a disease of a simple regular paroxysm. . . .”

A simple and one paroxysm! That is what should be proclaimed as a first and incontestable character of yellow fever. But, adds Dr. Laroche on the following page, 429, “As to the type of that paroxysm—whether during its continuance, the fever observes a continuous course, or whether it presents alternations of exacerbation and diminution, which would entitle it to the appellation of a paroxysmal disease of a remittent or intermittent character—a great difference of opinion has long existed and continues to exist.”

Further, Dr. Laroche passes in review the great medical authorities, Rush, Jackson, Devèze, Aréjula, etc., . . . who, in the United States, in the West Indies, and in Spain, have thrown the most confusion upon this point of science, and, finally come to the conclusion that this confusion has sprung from the little care which was taken in unraveling the part which the paludal element produced by its combinations, in those different countries with the yellow fever morbid agent.

“That the two diseases may prevail at the same time, in the same place, and also *co-exist in the system*, are facts too evident to be denied.” (P. 437.) As to his personal opinion, after having carefully studied the yellow fever at Philadelphia, where the paludal element plays yet a certain part in the suburbs and the surroundings, being almost extinguished in the city proper, where the paving is complete, we find as follows: “So far as the many cases that have fallen under my own personal observation are concerned, the one paroxysm was certainly continuous. In

no instance, *when the disease was pure*, could any remissions, properly speaking, be detected." (Page 433.)

But if there is a city in the world where the paludal element must play an incontestable part, assuredly it is New Orleans, situated between the Mississippi river and the Pontchartrain lake, being thirty degrees latitude north, built upon an alluvial soil, quite flat, composed entirely of organic detritus, and cut up in every direction by canals and creeks or bayous, where the water is stagnant and sometimes drying up in many points, being subjected to an extreme evaporation during summer—nowhere, probably, are the conditions of humidity and heat so favorable to the development and germination of morbid seeds of all kinds to be found more perfectly combined. New Orleans is then a perfect soil to meet with the complications of the paludal fevers with all the others, and especially with yellow fever. For my part, here is what I have many times observed: 1st. That convalescents of yellow fever are taken with intermittent fevers, sometimes of pernicious or congestive accidents, for instance of an algide form; 2d. That unacclimated strangers, in the midst of an *intermittent* stage, during the full prevalence of an epidemic of yellow fever, are taken with an acute continued fever, which is the real yellow fever. With these last, the intermittence disappeared, because the paludal morbid-agent yielded to the more powerful morbid agent of yellow fever.

We repeat, then, with Dr. Laroche—"That the two diseases may prevail at the same time, in the same place, and also co-exist in the system, are facts too evident to be denied." And when they co-exist in the system, it is the yellow fever which holds the upper hand, which wipes out, in some manner, the other fever. As a proof, it would suffice to consult the tablets of the pulse in yellow fever, which I gave in my pamphlet of 1864, under the title of Appendix to the Letters. These tablets represent the number of arterial pulsations per minute, counted day by day, in 137 patients, during three great epidemics, those of 1839, 1853 and 1858, and by nine different observers. 137 special observations upon as limited a point of science as this, that of *the pulse* in one particular fever, must carry with them a certain amount of weight.

For the epidemic of 1839, the pulse was counted in 56 patients, 15 belonging to the Memoir of the Medical Society, and 41 to Daret, the regretted President of our late Society. In the 15, only two or three presented anything resembling a remittance followed by exacerbations. In the 41 others, it is only if in five or six cases we can notice anything which simulates an intermittence; in all the others, *the regular decrease of the number of arterial pulsations is constant from the second to the fourth day*. However, the intervention of the *paludal genus* exists each year, more or less, at New Orleans, particularly from July to November.

With regard to the epidemics of yellow fever of 1853 and 1858, I affirm, for I studied them with care, that they were complicated with a paludal endemia. During the epidemic of 1853, the pulse was taken daily in 23 patients, and in the 23 there were but two or three in whom a slight irregularity was perceived in the decrease of the number of arterial pulsations; in the 20 others *the continuous decrease was perfect*. During the epidemic of 1858, the pulse being taken in 63 patients, of whom 12 were observed by Dr. Delery, 34 by Alain and by myself, and finally 15 again by myself, here is what may be remarked: In the 12 patients of Dr. Delery, there is one in whom the intermittence is perfectly regular, another in whom it is perceptible, two or three where there are irregularities, and finally, seven where the regular decrease of the number of arterial pulsations was not altered. In the 34 observations taken at the French Asylum by Alain and myself, should we agree to cast out five or six cases in which the pulse assumes a new frequency, because death is near, there was no real exception in the continuous decrease in the number of arterial pulsations. The same was observed in my 15 observations, collected in my private practice in the city during the same epidemic of 1858.

When I wrote my first pamphlet in 1859, I had not as yet been able to collect but 95 of these 140 observations, and it can be seen, at page 85, that the deductions I then drew are the same as those which are deduced from the 45 which I have been able to add to the first number.

The following is the language in which I expressed myself at page 85: "In all these observations, written at the bed-side of the patients, during three different epidemics at New Orleans—1839, '53 and '58—we perceive, nearly without exception, that the pulse, at its apogee from the first day, gives more than 100, sometimes usually 110 and 120 pulsations; begins to fall *from the second* and continues to decrease regularly to the third, in such wise that the most often from the fourth day, latest the fifth; whatever may be the result of the disease, there is already apyrexia; it gives from that time but from 70 to 80 and sometimes much less. That if, after having thus fallen, the pulse rises again, and with some violence, without any intercurrent complication, it is for a hopeless struggle. On the contrary, if convalescence is to take place, the pulse falls again to 60, to 50 and even to 40 pulsations per minute!"

During the epidemic of 1867, I was able to take but a few notes, on account of a carbuncle of the left hand, and besides I applied myself during this last epidemic more to observe the progress of the *thermometric* column in the axilla of the febrilitants than in counting the pulse with the watch having a second-hand. I can, however, certify that the data furnished by the second watch, in 1867, were in accord with those obtained in 1839, 1853 and 1858: with regard to the continuous decrease of the number of arterial pulsations from 120 to 70 in mean, it was constant from the second and third to the fourth and fifth days. Moreover, this continuous decrease of the pulse was generally in exact ratio with the temperature of the patient, given by the thermometer in the axilla. But on this point my observations are insufficient in number.

Several other facts, which spring from our tablets of pulse in yellow fever, are deserving of notice: In the 137 cases studied in these tablets, we find that 96 times the pulse was counted on the first day and that 82 times out of the 96 the number of arterial pulsations was above 100, to-wit: In three patients the pulse was 140; in four, 135; in 29, from 135 to 120; in 16, from 120 to 110; in 30, from 110 to 100. Then, in 96 patients of yellow fever observed at New Orleans, there were 82 in whom, in mean, the pulse was 121 per minute the first day. Yet, here is what we read at page 292 in the Medical History of Yellow Fever observed in

Catalonia in 1821, by Bally, François, Pariset: "At the offset of the disease the pulse becomes active and frequent; it then rises to 80 or 90 pulsations." And at page 395—"As we have quite often studied it with the watch in hand, and as we are the only ones that have so done, we have the right of asserting that *it did not attain 100 pulsations*; all assertion to the contrary should be considered as an exaggeration, invented by those who have not dared to touch the patients, or by those who saw them but superficially."

In my letter of November 1860, I endeavored to solve the *apparent* contradiction between the results obtained at Barcelona and those of New Orleans, in stating that it was probable that the members of the French Commission must have seen their patients but after the second or third day, the patients being brought too late in the Hospitals, and that thus the pulse had had the time of falling below 100, before the first examination of the physicians. Our tablets, indeed, show that from the second day out of 137 there were 74 patients in whom the pulse was already below 100, the third day, 104; the fourth, 117, and finally the fifth day, 132 out of 137!

As plausible as was my explanation, it was not founded; it is certain that at Barcelona, in 1821, the first day of the fever, the pulse, repeatedly, was beyond 100; at Gibraltar, in 1828, Messrs. Louis and Trousseau noticed the same peculiarity. But at New Orleans, the numbers are positive; in 82 out of 96, the pulse, on the first day, in the mean, was at 121. Then the same fever, according to the localities where it prevails, may offer important essential differences; therefore, it is always necessary to remember, as was habitual with Baglivi, the location where the observation is taken: *Scribo in aere Romano*.

What is certain is that in the atmosphere of New Orleans where I write, the febrile movements of yellow fever possess a wonderful force; in its struggles against the paludal febrile action, it is always the stronger, and always manifests itself with its characteristic type of *decreasing* continued fever. If the two morbid agents come simultaneously in action in the system, it is only after the continued decreasing fever will have ended, that the fever with paroxysms will develop itself; *a fortiori*, will it

yet be thus when the yellow fever agent will have had the start ; finally, when it is the paludal agent, the ague-poison which has first entered in action, this action is suspended as soon as the other agent enters in fermentation, to such a degree that the intermittent progress of febrile action is immediately substituted by the continued march.

Consequently, an intermittent fever which remains intermittent until the end, whatever may be the symptoms which it presents, whether black vomit or jaundice, or jaundice and black vomit, together with other hæmorrhages, cannot be yellow fever ; it is not even a paludal fever complicated with yellow fever—it is a pure paludal fever even during the prevalence of an epidemic of yellow fever.

At Barcelona, as at Gibraltar, the febrile reaction was much less powerful than it is at New Orleans ; and at Barcelona especially, as at New Orleans in 1853, 1858 and 1867, it is certain that the paludal fever prevailed at the same time with the yellow fever, in 1821. I call in proof but the first observation of the Medical History of Pariset, (observation page 195), where I seek in vain some sign of yellow fever, and where I find all the most marked characters of the most complete paludal fever, intermittence, and paroxysms day by day . . . etc., etc. ; paroxysms that finally yield only to the influence of peruvian bark and quinine ; (it was in October,) relapse in November. “The recuperation of the sick—*i. e.*, the entire cessation of the paroxysmal fever was complete only at the commencement of April (of the following year), thirty days after his return to Paris.”

What adds more zest to this first observation of this celebrated and truly remarkable medical history of yellow fever of Barcelona of 1821, is that we are at liberty to question, when we read it, whether if, perchance, the patient who furnished it to the brilliant pen of Pariset, was not his collaborator Bally himself, who formerly had had yellow fever at San Domingo ; and who, after which, had published in 1814 his *Traité du Typhus d'Amérique*.

The fact of the febrile reaction being less in the yellow fever in Spain than in the yellow fever in America, was indicated already by Bally, page 519, of the Medical History of yellow fever of Barcelona : “From our comparative observations it is probable

that, during the first periods, the pulse had less frequency in Barcelona than in America." This fact admits of the idea that the fusion, or confusion, of the two fevers is more apt to occur in Europe than in America, and explains how their *differential diagnosis* must there have been more difficult there than here.

At New Orleans, the best established fact in my mind is that which I have expressed in my first proposition—"Yellow fever at New Orleans is a fever of *one stage*; the type of this stage is the *continued decreasing*."

I pass next to my second proposition.

SECOND PROPOSITION.—Paludal fevers, as a general rule, even when apparently continued, are paroxysmal fevers at New Orleans.

It is not only the inefficacy of quinine in the treatment of yellow fever, when free from all paludal complication, it is not only this negative fact which proves to what extent it is exempt of paludal infection; it is especially its continued decreasing march. In fact, however constant this progression is in yellow fever, as constant is the march by paroxysms in paludal fevers.

A great uniformity of march, *with one stage* is characteristic of yellow fever; a great variety of march, *and several stages*, is typical of paludal fevers.

This variety of march is such that, recently those who have adopted the teachings of the French physicians of Africa, and of the West Indies, have admitted for paludal fever, with all their shades, the three fundamental types, the *intermittent*, *remittent* and the *continued*. The two first, present no difficulty; all admit them to be *paludal types*. As to the third, the *paludal continued type*, it is, undoubtedly, more apparent than real. At least, it is the result to which I have attained, by the study of this point of pyretology, in Louisiana; it is also, quite probably what M. Maillot arrived at by his experience in Africa; for it is this physician, I believe, who was the first to call pseudo-continued type, the paludal continued type.

The following are my expressed views on this subject, page 87, of my pamphlet of 1859. "A certain amount of attention, no doubt, must be taken to recognize various pseudo-continued fevers

beneath their mask of continuity; but with care and patience, we always discover something in their march which betrays them, at their offset, and thus enables us to bring them to their true class, the paludal. I have already stated that I have never met a single case of typhus paludique, or of paludal of our country districts, with regular and perfect continuity and decreasing continuity of the febrile action. On the contrary, yellow fever, by the regularity of its march is decidedly an essential continued."

"It is then principally, by the attentive observation of the march of the febrile movement, positively observed, several times per day, *with the second needle, watch in hand*, that we are able to distinguish the slightest difference, between yellow fever and our district fevers. Half of the labor is already accomplished—*regular decrease* of the pulse from the first or the second to the fourth or fifth day, in yellow fever, is an admitted fact; it remains to collect a sufficient number of complete facts, taken down at the *bed-side* of the patients, to positively decide, if, on the contrary, the febrile action is not *irregular* from the first days, with *remissions* and *exacerbations*, with *paroxysms* finally, in the fevers so called yellow fever of our landed districts, on account of being mixed with black vomit, jaundice and passive hemorrhages."

"What I have already seen, especially in 1853 and in 1858, in our surrounding vicinity and at Bay St. Louis, leaves me without a shade of doubt of the result which will be obtained." Now, it was in 1859 that I wrote the above; I was forced to wait sufficiently long for an answer to my appeal; but finally, after the epidemic of St. Martinsville, of 1867, Dr. Fleming was kind enough to address me an able letter, wherein he announces the results to which he has arrived, and here is what we read in this letter: "It was a question to know if the fevers that prevail in the country of Louisiana, and which present various symptoms of yellow fever, are fevers of continued type, or whether, on the contrary, they should be classed amongst the remittent or pseudo-continued. This is what I took pains to determine in a precise manner, during the last epidemic (1867), by giving the utmost attention, by means of the second hand-watch, to the march of the pulse and its least variations. I met with no difficulty, in

recognizing that we had to deal with a *real remittent*, for the paroxysms had a duration of about thirty-six hours, and the paroxysms were renewed every twenty-four hours, coming, consequently, one in the other in twelve hours. This was indeed our *paludal endemic*, which, in its gravest form assumes the mask of yellow fever, and which is apt to lead astray on a superficial examination." Thus, at St. Martinsville, in 1867, the *paroxysms* were reproduced every twenty-four hours, and that before the termination of the preceding paroxysm; so there was pseudo-continuity of the fever.

During our mixed endemo-epidemics of 1853, 1858 and 1867 of New Orleans, I have sometimes witnessed the paludal paroxysms to be reproduced every eighteen and even every twelve hours, so that it was more than a pseudo-continuity—it was an exacerbation and reduplication of the paroxysm coming on at the greatest pitch of the preceding paroxysm. Quinine, in removing the exacerbation, produced a remittency, before succeeding to arrest the fever entirely. At other times the first paroxysm was so violent and long, that the second supervened under the *tertial* type before the end of the first paroxysm—so that the same tertial fever is here then sometimes pseudo-continued. Nevertheless it is true, that the double-tertians and quotidians are those which are prone to present to our observation, in our locality, the febrile action of pseudo-continuity.

Yet, a consideration of the greatest importance is here necessary: As all the essential fevers, yellow fever, the eruptive fevers, scarlatina, roseola, variola itself, paludal fever, are observed under the gravest *as well as the mildest form*,—it may be either foudroyante or ephemeral; it can kill as well as cease in a few hours. Then, a fever that may kill or cease in a few hours, has not the time, evidently, to have more than one paroxysm. With these two extreme degrees, paludal fever can then be a *continued fever*, being either rapidly fatal or ephemeral. We must not forget, also, that paludal fever, of all forms, sometimes reigns epidemically, under the gravest as well as the mildest appearances.

In resumé—Paludal fever, a *paroxysmal fever* as a rule, presents

itself under all types—intermittent, remittent, pseudo-continued, and even *continued*, that is, with the signification for this last which I have just pointed out.

In opposition, let us repeat once more: Yellow fever, freed of all paludal element, is an essential continued, of one paroxysm, characterized by a rapid diminution, and early cessation of the fever, never presenting either intermittency, or remittency, or even pseudo-continuity. On the contrary, the hæmatemesic paludal fever is a paroxysmal fever of all types. Then, it is a fever totally different from yellow fever; our third proposition will develop it.

THIRD PROPOSITION.—The hæmatemesic fever of New Orleans, distinct from yellow fever, is a paludal of all types.

To establish this third proposition, facts, nothing but facts, are necessary, but are necessary and sufficient. We shall then, as briefly as possible, present a few. Besides, it will suffice, evidently, to give several very short extracts of some of those which are already published in my different pamphlets, where they can be found with details.

OBSERVATIONS.

CASE I.—"Lalanne, a Frenchman, twenty-four years old, eight months in New Orleans, butchering at Boulogny, enters the French Asylum, on the 26th of September 1857, at four P. M.; I saw him at six P. M. Had been taken with a chill on the 24th between the hours of ten and eleven A. M., which was soon followed by a hot and sweating stage. During the fever he had suffered from pain in the head and back; fever yielded in the course of the afternoon of the 24th. The 25th, violent chill at the same hour as of the preceding day, followed by headache and pain of the back. The 26th, day of his admission, fever at same hour, beginning as with the preceding paroxysms, by a violent chill soon succeeded by burning heat and profuse perspiration. Seen at six P. M., at the decline of the third paroxysm; pulse still frequent, surface moderately warm, bathed in perspiration, freedom from cephalalgia. The patient has not vomited during any of the three paroxysms. I prescribed thirty grains of the sulphate of quinine, to be taken early on the following morning."

"The 27th, in the morning, free of fever; pulse calm, skin good, tongue white and thick; the patient feels quite well; he has taken and retained thirty grains of sulphate of quinine. Ordered lemonade. At evening visit is found with fever, pulse frequent, hot and moist skin; complains of head and back; the alveolar borders of the gums is covered with a liseré blanc (white fringe) of a line of width. Notwithstanding the thirty grains of quinine, he was taken at the same hour, with a fourth paroxysm; the chill was very severe, with clattering of the teeth. During this violent chill the patient vomited at three different times, a brownish-black liquid which was shown me. The vomit after remaining several hours in a basin is composed in part of a liquid made browner than black, and of a pulverulent solid, resting at the bottom of the vessel, and bearing analogy to soot or coffee grounds. If the vessel is shaken, we have present the appearance of a black liquid, having the resemblance of an infusion of coffee moderately concentrated, in the midst of which we perceive the pulverulent substance above spoken."

Such is the note which I find amongst the observations left us by our regretted friend Frederic¹ Alain, who fell a victim to the epidemic of the following year, 1858. I have piously reproduced it.

Here is now what I can add: On the day of the black vomiting of his patient, Alain took me to see the case with him at the Asylum. As we were about leaving, Daret, the honorable President of our former Society of Medicine, happening to pass, we led him to the side of the patient. Now, Daret declared as I, that he had never met with *a more perfect black vomit in yellow fever*; it was genuine black vomit. The textual description after all is here in proof.

Lalanne got rapidly well of that paroxysmal fever, with large and frequent doses of quinine associated with opium.

On the following year, whilst doing the service of the late Dr. Alain at the French Asylum, at the very acme of the epidemic of 1858, I found this same Lalanne *with yellow fever*, the real this time, but lightly, and mending rapidly without the slightest appearance of black vomit.

In 1857, on the contrary, whilst Lalanne threw up black vomit in a simple paroxysmal fever, there was no yellow fever in the city,—there was none at all during the whole of that year at New Orleans.

Consequently, there was not with Lalanne any mixture of yellow fever with an intermittent fever; there was not even an epidemical influence of yellow fever acting upon this intermittent fever, since that year was totally free of all epidemic; there was then in this patient a regular intermittent fever, of legitimate quotidian type, presenting, as symptom, a black vomit at the fourth paroxysm; it was then truly a pure paludal hæmatemesic fever.

On the other hand, I have met in full epidemics of yellow fever, this very intermittent type, entirely intermittent with black vomit, without admitting the right of imputing to the prevailing yellow fever, even the slightest influence upon this black vomit; the case of the young Montreuil, cited in my preceding article, is an instance of the kind. Here follows a brief detail of it.

CASE II.—During the greatest prevalence of the epidemic of 1857, in September, J. Montreuil, aged eleven years, is taken with a perfectly delineated, quotidian type of intermittent fever; three or four paroxysms occur, without our succeeding in persuading him to take quinine. During the great mixed endemo-epidemic also of 1858, when only two years old, he had already had an *intermittent fever*, with *black vomit*. It was a still greater reason to cut short this, by means of the specific. As already at my third and fourth visits, distress at the stomach was manifesting itself, even during the apyrexia, I had ordered a solution of thirty-six grains of quinine in four ounces of water, and, assisted by his father, I endeavored per force to administer a spoonful; I was obliged to desist; it was a painful struggle. A few hours later a new paroxysm took place, in the midst of retchings, soon *black*, and before a single grain of sulphate of quinine had been taken. The father being justly alarmed, called in several robust persons, and the child being held on his back, with spoons between the teeth, he poured into his throat, the contents of the vial, containing thirty-six grains of sulphate of quinine in solution,

though I had only ordered him to endeavor to get the child to keep but the *half* of the vial; the whole was however taken, *uno haustu*. From that moment, there was no vomiting; but a few hours later, the child was deaf and blind. On the following day, sight and hearing returned to their normal state. It was the last paroxysm; convalescence was immediate.

But, Dr. Deléry having occasion to visit this young boy, a short time after his *black vomiting*, which was shown him, and spite of all information which was given him, persisted and still, I believe, persists in maintaining that this was a case of yellow fever. Let us hope that he will favor us with the scientific grounds of his diagnosis. In my opinion, there is not here even complication of an intermittent fever with a yellow fever—for the decisive reason, (and it is a fact of observation), that when yellow fever happens to complicate an intermittent fever, the intermittence disappears to give way to the febrile *decreasing* continuity of yellow fever, and quinine does not arrest it. Here the fever was always intermittent, and was arrested, cut short, at the first blow by the quinine. Moreover, we have not the right to invoke here an epidemical influence of the prevailing yellow fever, since cases of *intermittent fever* with black vomit, occur outside of epidemics, and with greater reason, can occur, when a *paludal fever* prevails, at the same time, epidemically, as in 1853, 1858, and 1867.

I must however add that it is especially at the decline of our epidemics, when fall has well set in, in October, November, even in December, that I have met cases of clearly defined intermittents of the paludal hæmatemesic form. In July, August and September, of epidemic, as well as *non epidemic* years, the febrile action approximates most that of continuity. So that, it is not wholly the yellow fever influence, since it may be present or wanting, but the atmospherical influences of moisture and heat which decide the march of the febrile movement.

The next case is again an example of the intermittent type of the hæmatemesic fever occurring at the end of October.

CASE III.—Joseph, a mulatto boy, aged nine years, four years old during the epidemic of 1853, no fever during

that epidemic, living at Mr. Mazureau's, born in New Orleans, having never left the city—is taken with a violent fever with delirium, in the night of the 25th of October, 1858. Following morning, complete apyrexia, plays about the streets during the day. The 26th, 27th, and 28th, return of perfectly characterized intermittent paroxysms, occurring at same hours. Between the paroxysms of the 27th and 28th, a fruitless attempt had been made to administer quinine, it being immediately rejected. Finally, I see him, for the first time, on the 28th of October. The fever had not entirely left him, and he vomited all liquid that he had drunk. Quinine is in consequence very badly kept. From that evening a few black coagula are noticed in the vomit. The 29th he vomits *black* the whole day—blister to the epigastrium. The 30th, in the evening, I showed him to the late Dr. Rouanet; at the moment of our visit, he was still throwing up, facies hippocratic, but clear intelligence. The matters thrown up were a liquid, acid to litmus paper, of the color of a light infusion of black coffee, holding in suspension masses of small black coagula, being formed by small clots of blood, combined with gastric mucus. The next morning the little patient was dead, without ever having retained a single grain of quinine.

At page 56 of my pamphlet of 1859, can be read the case of a boy, aged eight years, of Mr. Angamard, who, in *December*, 1858, had also an intermittent fever, but first of a bronchio-catarrhal form, and who, on the 9th of December, after four separate paroxysms, followed by complete apyrexia, was taken with vomitings at the fifth paroxysm, which soon presented all the characters of genuine black vomit. This child got well.

Last year, 1868, at the beginning of November, I saw the Sister Superior of St. Croix, who died of uncontrollable *black and mucous* vomitings, consequent to paroxysms of intermittent fever. When I saw her, it was late, retchings had taken place; they were soon followed by stools of a choleric and dysenteric matter, so that all means of administering quinine was in a manner impossible. Dr. Rancé saw this case, in consultation with me.

In 1860, in the months of January and February, I had on the contrary, seen our late venerable Arch-Bishop Blanc, get well of a remittent fever accompanied with black vomit. Dr. Ferrier

Senior and Dr. Labatut assisted me in consultation in this interesting case. Arch-Bishop Blanc, more than sixty years old, was more than twenty-five years in New Orleans, and consequently perfectly acclimated.

Here is an extract of the observation of his case, published with details in the No. 8 (February 1860) of the Journal of the late French Medical Society of New Orleans :

CASE IV.—First day. In the night of the 25th of January, 1860, moderate paroxysms of fever, acid and fluid vomitings; Eighty pulsations in the morning, skin moist, violent aching of the back. Rest, diet, baths. Later, aching of the back persisting, six cups with scarification removed the pain. Citrate of magnesia to be given in the morning.

2d. day. Night, second paroxysm of fever: same burning heat, same thirst, same agitated insomnia, same acid and liquid vomitings. Morning visit, skin cool, but pulse 100 and strong. The matters thrown up were of a colorless liquid, acid to litmus paper, holding mucosities in suspension, and presenting at the bottom of the vessel, a mucous magma, heavy, characteristic; moreover in inclining the vessel, *small black clots* would be perceived on its side. Recipe, sulphate of quinine, thirty-six grains, extract opium, one grain, for twelve pills; two pills every two hours.

Afternoon, vomiting of a liquid of the color of prune juice, in which thousands of small black clots floated; hiccough; feeling of weight at the lumbar region and lower abdomen; urine scanty; pulse 96, skin cool; facies worn, fatigued.

3d. day. Night, was still much agitated, but free of vomitings. A regurgitation came forth, and left a large brown stain, sprinkled with black dots, upon the sheet, as those found upon the handkerchief of snuff takers; urine tested with nitric acid contains *much albumen*. During the day, few bilious vomitings, with small amounts of black clots; incessant hiccough; thirty-six grains of quinine are absorbed. Blister over the epigastrium with one fourth of a grain of morphia sulph.

4th day. Amelioration, broths, wine and water; *tiunitus aurium*.

5th day. Amelioration continues; very slight hiccough; no albumen in the urine; quinine is desisted with.

Night of the fifth day, again a terrible paroxysm; *black vomiting*; increase of the hiccough; return of great amount of albumen in the urine; pulse 100, irregular; after injections of milk, chocolate-colored stools. The pills of quinine are resumed, and injections of one drachm of extract of peruvian bark and sulphate ether are superadded.

6th day. Same state; 36 grains of sulph-quinine and three grs. of musk. meteorism; 12 grains of calomel and six of aloes.

7th day. Four purgations; hiccough less marked; broths, wine and water—dreadful night; perpetual hiccough, moaning and groans.

8th day. Amelioration; pulse 75; skin gently moist; almost freedom of hiccough; very small amount of albumen in the urine; tongue clean and humid; injections with extract of peruvian bark, assafœtida and camphor.

9th day. Convalescence.

About the same time wherein I attended this patient (Feb'y 1860), I saw at New Orleans, in consultation with Daret and Dr. Trudeau, a lady of St. James Parish, who also presented as grave symptoms—*black vomitings during three days*, hiccough, albumen in the urine, and who recovered only through the influence of large doses of quinine.

During the same year (1860), a year exempt from yellow fever, in August, when the heat was already extreme, I again collected another observation of *black vomit* in an acclimated person, in whom a fever first of an intermittent tertian type, became remittent, then pseudo-continued. It is one of the most rare instances of the paludal fever of New Orleans, of the paludal hæmatemesic form, wherein co-existed hæmorrhages of the bladder and stomach, *hæmaturia* and *hæmatemesis* together. Dr. D'Aquin attended this case with me. We give here an extract of this observation, published with details in the No. 5 (November 1860) of the Journal de la Société Médicale de la Nouvelle-Orléans:

CASE V.—Mr. Paul Poincy, aged 27 years, creole of New Orleans; had been sent to College at St. Louis, Mo., at twelve years, but during the vacations, he was several times in New Orleans during epidemics of yellow fever and never sick. On

the 14th of August, 1860, a non-epidemic year, he was taken with a hot fever during the night. The 15th, apyrexia; the 16th, second paroxysm without chill; remission, 15 grains of quinine. When I saw him, for the first time on the 17th, he was at the beginning of the third paroxysm, and had already had forty grains of the sulphate of quinine. He was costive—prescribed salts. The purgative was partly rejected and the fever increased. At night, pulse 112; 36 grains of quinine, restlessness, delirium.

Morning of the 18th, pulse 118, depressible. Vomiting of greenish mucosities; no urine for the last twenty-four hours. Evening: vomited twice during the day. The second vomit is remarkable; in a yellowish liquid, we perceive, in the midst of mucosities, black clots, which can be compared to soot; amongst the black clots, there are some of chocolate, and three or four of a red color. Pulse depressible at 100; skin cool and bathed in perspiration; thirst; predisposition to vomit; tongue whitish and moist; anxiety; deep sighing respiration. Finally the patient has just urinated. Blister to epigastrium, injections of quinine and extract of peruvian bark.

19th, morning.—Pulse 108, skin hot and moist; tongue furred; white pultaceous deposits on the gums. Delirium all night. Vomited six times an acid liquid with greenish mucosities and black clots. Hardness of hearing. Urinated twice; with nitric acid a great amount of albumen is discovered in the urine. Evening: Pulse 115 to 120, with irregularity. Vomits are yellowish, and black clots are more and more scarce. The head becomes more and more engaged; increasing stupor. Blisters to each leg. Injections of quinine.

Morning of the 20th.—Horrible night; much difficulty in keeping the patient in his bed.

6th day.—Pulse 120, skin hot and moist; much albumen in urine; constipation; meteorism. Calomel, 20 grains.

Evening.—Pulse 130; douches to the head; cephalgia; potion of quinine and musk. Remission.

21st.—New paroxysm at twelve o'clock with delirium. It is during this day that we perceive in the urine, quite few however, clots of blood, fibrinous and red, genuine hæmaturia, with a notable quantity of vesical mucus in suspension.

7th day.—General cold affusions, clysters of assafoetida, camphor and musk. During the night, great prostration, profuse perspiration, gradual diminution of heat. Deafness more and more manifest.

22d. Gradual amelioration; almost absence of delirium; urine more abundant with diminution of albumen; broths, beef-tea, claret and water; sleep following affusions to the head.

23d. Entering into convalescence. Has had three remarkable stools at the end of the night: the first *black and pitchy*, resembling tar; the two others are of the color of chocolate. Urine muddy, but contains no trace of albumen, but much mucus. During the whole course of the disease, we did not observe in the urine a trace of green matter by acid reaction; the conjunctivæ were never yellowish. At three intervals during convalescence, he had decided paroxysms of fever, which were met by quinine.

I find, in my last memoir, but one more observation with hæmaturia and black vomit together. It was made by Dr. H. D'Aquin in September, during the epidemic of 1858. The following is a resume of the case:

CASE VI.—A colored girl, five years old, subject to intermittent fever, is taken with retchings on the 16th of September, then with a hot fever: Night—Pulse 140; respiration 40; skin hot; drowsiness; quinine 25 grains in a potion; friction of the skin with two drachms of quinine. The quinine is thrown up; the vomits are of a *brownish liquid*, at the bottom of which could be seen a kind of coffee dregs, in a thick ropy mucus. Two evacuations during the night, in one of which is noticed a great deal of mucus, which can be unfolded in large flakes of false membranes. Urine with deposit of mucus.

17th. Morning—Pulse 120, respiration 28. Evening—Pulse 134; skin hot; two retchings of gray slimy matter; two stools, with a kind of false membrane of a grayish red. Urine, with nitric acid, throws down a great deposit of albumen.

Evening—Skin cool; pulse thready at 140; vomits *more and more black*, of coffee grounds; extreme restlessness; urine of almost pure blood; died during the night.

(To be continued in October Number of JOURNAL.)

ART. III.—*Increase of the Physical Power of the Uterus, by the application of physical force to the Fundus Uteri*: By J. H. GRANT, M. D.

THE difficulty or facility with which a body passes through any orifice depends on three circumstances. First, the propelling power; second, the size of the aperture; third, the size of the body propelled, relatively to the opening through which it has to pass.

Applying this general rule to the process of labor, if the uterus, the propelling power, is weak or irregular in its action; or if the aperture, whether of the pelvis or vaginal canal, is contracted; or if the head of the child is unusually large; either of these circumstances will retard the progress of labor, and to one or more of them is to be referred every variety of tedious labor.

In impeded labor, the position of the fœtus is supposed to be natural, but for some cause, there is unusual delay in its passage to the parturient canal.

It is conceded on all hands, that labor is a physical process, and that all the devices of man, and all discoveries for effectuating the process, have for their object, either the direct increase of the powers concerned in the expulsion of the fœtus. Ergot increases directly the muscular power of the womb. The forceps do so indirectly, by lessening resistance. Even version has the same object in view, indirectly.

The mode of practice, I now lay before the profession, has for its object, the direct increase of the physical power of the uterus, by the application of physical force to the fundus uteri, in the form of pressure to or upon that part during the pains.

I shall now adduce reasoning and an array of facts to prove that this mode of practice is the most natural, convenient and effective, now known to the profession; requiring not the use of ergot, forceps or turning, except in cases of mal-position of the fœtus; and will banish craniotomy from obstetric practice, except in cases in which it is impossible for the head to pass without mutilation.

I shall now present a case doubly typical of the cases in which I was compelled, before I adopted this new mode of practice, to

deliver by craniotomy, and in which I now invariably succeed in effecting delivery by the new plan.

No. 1.—Called to Mrs. H. She had been in labor eight days. I did not see her until the eighth day of her labor. She was a young healthy woman, stout and with well developed muscular system. Her pains were extremely harrassing, her pulse rapid and small, and in addition to her labor pains, she had unceasing pain in her back; indeed the general system began to sympathise greatly with the uterine irritation. The os uteri was dilated to its utmost capacity. There was not the slightest advance of the fœtus; the head presented naturally.

I administered ergot in hope that it would make the pains *propulsive*, but in this I was disappointed. It acted promptly, increasing, if possible, the violence of the pains, as well as the general distress of the patient. The woman became exceedingly clamorous for relief, and it was evident that without relief soon the case must prove fatal. I feared and apprehended rupture of the uterus. I had no obstetrical instruments of any kind and there was no time to procure them. I perforated the head with my pocket knife, evacuated the scull of the brain and by the use of my fingers as a blunt hook, succeeded in extracting the fœtus after a considerable time and with great exertion. I forgot to state in the proper place that this a was *primipara*.

No. 2. Mrs. J——n has had seven children. Her labors have been extremely hard—the last she had was the severest of all. She was in labor two days, and had several attacks of eclampsia, though she never had anything of the kind before in her life, nor was she in the slightest degree predisposed to such attacks. She was scarcely able to leave her bed at the end of four months, and then could not attend to her ordinary domestic duties. She became pregnant again, and it was her opinion, as well as that of her husband and friends, that she could not survive such another time.

MS. Under the circumstances, I was requested to attend her. The time having arrived, I was summoned to her: when I arrived, she had been in labor about twenty-four hours. She described her feelings as dreadfully distressing, and premonitory symptoms

of eclampsia had made their appearance. The os uteri fully dilated; the presentation correct (vertex); no advancement of the fœtus. The membranes did not protrude in the slightest degree. I administered ergot, but fearing it might increase the distress in the head and accelerate the eclampsia, I requested her sister, a stout strong woman, accustomed to farm labor, to spread out her hands over the fundus uteri, and to press firmly but moderately, gradually increasing by my direction, I myself frequently pressing on the same part with considerable force. In a short time the pains began to increase; the membranes protruded and I ruptured them. The head symptoms which were very severe and distressing, now diminished, but the labor progressed very slowly. Finding the labor did not progress to my satisfaction, I directed her husband, who is a very strong man, to place his hands over the woman's, and directed them to press down with all their might.

The child now began to advance, and not many pains were required to effect its expulsion. During this process I frequently asked the woman if such pressure gave her any pain or inconvenience, and she invariably replied it did not.

I have also in similar cases put the same interrogatories and have in general received negative answers. The woman was able next morning to sit upon a chair till her bed was adjusted, and in one week was able to be up and about, and declared she never felt so well, and never recovered so rapidly before in her life. The child weighed twelve pounds, and was very large—the head particularly was excessively developed.

No. 3. Called to Mrs. S.—s. She was taken in labor on Saturday. I saw her first on Tuesday. She is very young (only fourteen) but well developed, and muscular, in very high health. Labor pains dreadfully harrassing; high fever; os uteri well dilated—membranes entire and not protruding. She requested me not to destroy her child, and declared that if it must die, she would rather die with it.

I immediately recognized this as a very difficult case, indeed, equal in difficulty to No. 1; and probably would have to be terminated in the same way. The restriction, however, under

which I was placed in regard to saving the child gave me considerable embarrassment, and more particularly as I had no forceps or other obstetrical instruments; and I confess, if I had been in possession of them, I am no adept in using them, particularly the forceps; and I now doubt very much if any one could have effected the delivery with that instrument as the sequel will show. I had not yet elaborated the plan above described, though I was certain I had derived benefit from it in several severe cases; but I was in doubt to what extent I might safely carry it. I had no authority to support or encourage me, but under the difficulties, I determined to give it a cautious but fair trial. The presentation natural. I determined not to give the ergot—for in the event of failure—as had happened in other cases, and particularly if the symptoms should become aggravated by it, an immediate resort to craniotomy would be inevitable. I now directed the midwife who had been in attendance to spread out her hands over the fundus uteri and press down at each pain. The labor not progressing, I requested a strong man to place his hands on hers and for them both to press with all their strength. Under this degree of pressure the head begun to advance; with my fingers in the vagina I could feel the parietal bones riding one upon another, and they could be heard snapping audibly, even by the assistants and bystanders. The head advanced in a satisfactory manner, and in a few hours the case was decided.

The child was born dead, beyond the possibility of resuscitation. The after-birth came away in good time, without any trouble in this case as well as all the others. The fever yielded in about a week to appropriate treatment, and she had a good recovery.

No. 4. Called to Mrs. A——n; had been in labor with her third child about forty-eight hours. Midwife said the child did not advance, though the pains were severe. Found os uteri dilated to its full capacity; membranes not in the least protruded; entire presentation natural. Commenced pressing on the fundus uteri; woman cried out “Oh, don’t press there,” “you’ll kill me,” “I shall faint,” etc. Continued to press, at first moderately during the pains; after a while pains began to increase. Upon

pressing could feel the fundus uteri harden under the hand, and the tensibility at first complained of soon subsided.

I now requested the midwife to spread her hands over the fundus and press down with all her strength. The head advanced and the child was soon born; after-birth came away in good time without any trouble.

No. 5. Called to Mrs. C——y. She was taken in labor on Saturday. After being in labor about forty-eight hours, she was attacked with epileptic fits and had three in succession, when they subsided. She remained unconscious until the following Tuesday, five days, when she recovered her senses but was found to be perfectly blind. I was called to her on the twelfth day after she had been in this condition: she complained of severe pain in the head; the labor pains had disappeared during the eclampsia and had not returned; os uteri not dilated, but very dilatable. She was in labor with her first child; she complained of great soreness of the vagina and could scarcely be examined. She is a young and small woman, rather delicate, and had the smallest vulva that has ever fallen under my notice. Ergot had been given to her by the midwife, an ignorant black woman. As she was conscious, I gave her one grain gum opii every two or three hours till she went to sleep. The night after I saw her, she, while apparently sleeping soundly, took a paroxysm (epileptic); it soon subsided and her consciousness soon returned. After the paroxysm I gave her one grain of gum opii and she went to sleep, and rested well the balance of the night. I was in hopes the opium would revive the pains, but it did not.

This woman had been bled before I saw her. Next morning she was still without any pain; I gave her some ergot but she vomited it up immediately, so that it did her no good. The child was undoubtedly dead and probably had been some time.

It became a question now by what means she should be delivered to insure her safety. Forceps were out of the question, for if the fœtus had been alive, the smallness of the parturient canal and the excessive soreness of the parts would have made it entirely impracticable to introduce them. It resolved itself into a choice of craniotomy, as the fœtus was dead and there were no pains.

Craniotomy could have been easily performed, and there could be, under the circumstances, no objection to it. I determined, however, to give the plan of pressure on the fundus uteri a trial. I commenced the pressure as above described with my own hands : it gave her no inconvenience. After making pretty firm pressure a few times at short intervals she began to have slight and very short pains. These rapidly increased, apparently from the effects of the pressure alone. I now placed my hands on the fundus uteri and directed her husband, who is a much stronger man than I am, to place his hands over mine and press down with all his power. The pains now rapidly increased and the fœtus was soon expelled—it was of course dead. The head was so compressed and elongated that it was difficult to tell by the feel or appearance what it was; the sutures were completely ruptured. The after birth came away in a few minutes by slightly pulling the cord.

The woman remained perfectly blind, and was still so when I heard from her about a week after her confinement. Her chief lamentation was that she could not see her babe.

I saw this woman three weeks after her confinement, and she continued perfectly blind. Both of the pupils dilated to their utmost capacity, and insensible to light.

I shall not lengthen out this paper, by citing any more cases for the present, as I think those given are sufficient to illustrate the mode of practice I have pursued for several years past.

I claim that this mode is, as before stated, the most natural, convenient and effective known to the profession; equally as safe for the child and the mother, as any mode of delivery now known in the practice of midwifery. Of all the cases subjected to this treatment not the slightest injury or inconvenience has happened to the mother. Only two children have been born dead, and one of these was known to have been dead before the operation was commenced.

And I assert, without the possibility of successful controversy, that if the fœtus is born dead under this mode of treatment, it could not have been born alive under any other, of equal safety to the mother.

I shall now endeavor to define more clearly the mode of treatment mentioned above.

With regard to the quantum of pressure to be applied, it will of course depend on the resistance to be overcome. Upon applying my hands to the hook or scale of a spring steelyard, I found that I could, with tolerable ease, bring or press it down to the point of twenty pounds; two persons then might press down to the amount of forty pounds, without any great exertion; and indeed it is generally difficult to get assistants to press with all their might, as they are apprehensive of doing mischief or injuring the woman in some way.

In case No. 5, I pressed down to an extent of not less than twenty pounds, and the man who assisted me, perhaps pressed as much, as he is much stronger than I.

It must be remembered that the condition necessary for delivery, in all cases, must obtain in these, or in other words, the foetus must be right, the os uteri dilated, or dilatable. The practitioner must draw the line of distinction between the cases to which this practice is applicable, and those in which it is impossible for the head to pass without mutilation, and rendering it necessary to resort to craniotomy, or the Cæsarian section. I will make some remark in reference to supra-uterine pressure, as I shall call it, illustrating its utility and *modus operandi*. The hands of one or two assistants are to be spread out over the fundus uteri, and any degree of pressure necessary to enable the uterus to move forward its contents, should be applied. It will be found that as soon as this pressure is commenced, the pains rapidly augment in intensity, and return with great regularity, that in cases where the ergot fails to produce the desired effect, and even where it often does mischief. The pressure assists nature, as it were, to do her work in her own way.

The character of the pains is entirely different from those excited by ergot; for the latter excites the uterine fibre, rendering the uterus extremely irritable, so that if delivery does not speedily follow, great mischief may accrue and even rupture of the uterus, may result. On the other hand the pains are natural, the uterus is not forced to propel its contents, but is kindly and gently assisted

to do so. Again, this supra-uterine pressure is conservative in its action and influence, for if it be applied so as to embrace a considerable portion of the body of the organ, there can be no doubt, it has a tendency to support that organ and preserve it from rupture, in the same way that pressure on the perineum, preserves that part from similar accident.

Nor need any fear be entertained in regard to rupture of the os or cervix, provided all the conditions necessary to delivery obtain, for be it remembered that the force of the pressure is not directed or expended on these parts, for the parts of the parturient canal, with which the fœtus is in contact, is the point *d'appui* on which the pressure expends itself.

Reason and common sense would teach us that a large hollow muscular organ like the womb, could not be ruptured by pressing with any amount of force in the longitudinal direction of its fibres. Supra-uterine pressure equalizes uterine action, and causes all parts of the organ to act simultaneously and regularly. Nor need we entertain any apprehension that injury can accrue to the fœtus from supra-uterine pressure, to a degree to assist the uterus to expel its contents; for this pressure is not exerted on any particular part of the fœtus, but on the fœtus as a whole, held together in one compact mass by the contracting uterine parieties and abdominal muscles.

There is not so much danger of injuring the fœtus in this operation as in version.

My experience has demonstrated this to my mind beyond all doubt. In many cases the uterus, instead of propelling its contents is in a very irritable condition, and although the pains are extremely harrassing and frequent, it seems to retain its contents in the same way that the after-birth is contained in hourglass contraction. The ergot administered in these cases increases the pains as well as the general distress of the patient, without advancing the fœtus in the slightest degree. In these cases, supra-uterine pressure gives prompt relief; so convinced am I of its superiority, that I have ceased to use the ergot in such cases.

I claim that the mode of treatment by supra-uterine pressure will abolish the forceps, rectis, retroceps, et id omne genus, from obstetric practice. I shall not lengthen this paper by any

remarks on the use of the forceps and other obstetrical appliances—as all intelligent accoucheurs know what is said for and against them; all know the difficulty of their application, and dangers attendant on their use; all will agree that any mode of practice, calculated to supplant their use, will be hailed as the greatest boon to suffering humanity; and an accession of the greatest value to scientific midwifery. In cases where the head of the fœtus refuses to engage in or enter readily the pelvic brim, and for which the long forceps were invented, *supra-uterine pressure* is the very thing that has been long wanted.

By sustaining the uterine actions the fœtus is compressed, moulded and elongated in accordance with a law of nature, and propelled through the parturient canal under circumstances much more favorable for both mother and child, than could be effected by forceps, etc.

Any obliquity of presentation or want of flexion or rotation can generally be rectified by the hand;—but it must be remembered that these deviations from the natural condition are most commonly the result of a condition which the mode of treatment now under consideration, is calculated to *obviate*, viz., a want of tonic action of the uterus; and that by the aid of a little physical assistance to bring the uterus up to a point of healthy vigorous action, that organ can be made to overcome these aberrations of function. I claim that *supra-uterine pressure* will abolish turning, and version, from the practice of midwifery.

Turning has been offered as a substitute for craniotomy by Dr. Simpson, and strongly advocated by several practitioners of obstetrics; but one of its most enthusiastic admirers is Dr. E. Garland Figg, of Glasgow.

Dr. Figg would make us believe—if I understand him—that Nature has erred in placing the fœtus in utero in such a position that the head shall be the universally presenting part; but the mode of treatment now offered dispels that error, and sets us right in reference to our conceptions of this law of Nature. Nature is always provident in her designs and wise in her operations when not thwarted or contravened by second causes. We should,

in our profession, imitate Nature as far as in our power. Find out her mode of operating and assist her. I claim that the mode of treatment now set forth will confine the operation of turning to its legitimate sphere, viz: To cases of malposition of the foetal body. I claim that the treatment by supra-uterine pressure will abolish craniotomy from obstetric practice, except in cases where it is impossible for the head to pass without mutilation, I believe the above mode of practice is applicable to all cases in which the presentation is such that the foetus can be born by the natural powers, without having its position changed; as face, breech, etc. I have managed one case in which the child was born with the cord around the neck; the labor was hard and slow, and it was evident that it was retarded by something unusual, and when the child was born, it had a loop of the cord around its neck; the cord was very short, and it was large and very strong one, and I thought I should have to cut it before I could disengage it from the neck. This mode of practice promises to be very useful in placenta prævia. In these cases, we can generally in the early stage, hold the hæmorrhage in check with the tampon, till the os uteri is dilated or dilatable, and then we can accelerate the advance of the child to any desired extent, and as the after-birth separates from the cervix uteri, the head and other advancing parts of the foetus will form an effective tampon, and restrain the hemorrhage till we can accomplish the birth of the child. This would be better than to be compelled to introduce the hand into the uterus for the purpose of turning. A parturient woman may be delivered in bed by this mode of practice, but I generally prefer to have the woman sitting across the midwife's lap, and the person pressing on the fundus in front of her, or if two be necessary, one behind her, and who, while supporting her, can, at the same time, press on the fundus uteri.

ARGUMENT.

That labor is a physical process, and that when the power of the organs concerned in the expulsion, is inadequate to the performance of this duty, they can be exalted to any desirable extent by the application of physical force to the fundus uteri.

And that this increase of power is more natural and effectual than that produced by the use of medicinal agents; and that this increase of power is in accordance with the operation of the laws of nature, and safety to the mother and child.

The judicious application of such force will entirely supercede the use of obstetrical instruments, in a class of cases in which they are now used.

ART. IV.—*Remarks on Oxaluria*: Read before the Adams County Medical Society, November 8th, 1869, by L. H. COHEN, M.D., of Quincy, Ill.

It is my intention in this paper, more to present the record of one or two cases, and offer a few remarks in connection therewith, than to furnish an elaborated essay. It is my desire to draw the attention of members of the Society to this subject, which is one of great interest and importance, and it has appeared to me very singular, that so little notice is generally taken of it. It is certainly a disease far more common than is generally assumed, and I am convinced that very many of the obstinate cases of dyspepsia, that are so often a stumbling block to the practitioner, are associated with the oxalic acid diathesis. One very evident reason why this disease is so frequently overlooked, is the neglect of the use of the microscope, without which it is utterly impossible to diagnose a case of oxaluria. It is a remarkable fact, which I have noticed with astonishment and regret, that not only the microscope, but many other of the most important aids to diagnosis and research, as well as many of the new remedies and other therapeutical means that have come into use within the last ten years, are not only absolutely neglected, but are held in utter contempt, and in some cases, derision, by gentlemen who have diplomas in their possession—or, at any rate, write M. D. after their names, and should certainly cultivate more liberal ideas.

I particularly remember a case that came under my observation a short time before I left New Orleans; a woman about forty years of age, who by her own statement and complaints seemed to suffer from all the ills that flesh is heir to (not the least prom-

inent of which, was that very serious and distressing malady, *poverty*, a consideration never to be forgotten, when it exists in connection with such cases). This patient was under the care of another medical gentleman who attended her conjointly with myself; she suffered from retroversion of the uterus, a condition that was soon relieved by the support afforded by one of Hodge's double horseshoe pessaries—an instrument, by the way, whose virtues are not known or appreciated as they should be. From the peculiarity of certain dyspeptic symptoms, I was led to make a microscopic examination of the urine, and found abundant deposit of oxalate of lime. While treating this complaint, however, with evident improvement to the patient, a troublesome and formidable enemy appeared in the form of *carunculus of the meatus urinarius*. This affection is most fortunately of rare occurrence, for the fearfully agonizing, unremitting pain it produces, probably surpasses anything in nature. The growth was finally removed, with almost infinite trouble, on account of its vascularity, and power of rapid reproduction, which rendered its destruction, even by means of fuming nitric acid, a matter of great difficulty. This digression may appear at first, as somewhat out of place, and foreign to my subject, but I am by no means assured that this very growth was not, in some degree at least, influenced by the peculiar diathesis of the patient; I must say that I never could succeed in bringing the attention of my confrere to regard the dyspeptic and oxaluric symptoms; he was inclined to consider them as of little or no consequence, so wholly engrossed was he in what he endeavored to make a specialty, viz., diseases peculiar to females. Now, a very common attendant on the oxalic acid diathesis, is the appearance of boils, ulcers, and other like evidences of a cachectic state of the system, it certainly will not be upheld by any one that urethral carunculus could be considered an evidence of good health. I am strongly of opinion that this severe and painful affection in a manner *prevented* the appearance of the usual boils, etc., acting as a positive counter-irritant. I regret being unable to give the final result in this case, as I left New Orleans before the patient was restored to health, but her condition was very much improved in every res-

pect, and especially regarding the peculiar dyspeptic symptoms.

I shall give an account of two cases of oxaluria, that have been under my treatment in this city during the present year.

The first consulted me February 11; a young man of dark, sallow complexion, was employed principally at the desk, in an office, and led a sedentary life. He complained of loss of appetite, headache, pains in the lumbar region, dragging sensation with dull pains in the groin and scrotum, and sometimes involuntary seminal emissions at night; he was a married man, and complained that he was unable to complete the marital act, that he had been treated for *spermatorrhœa*, but without any benefit. I at once enquired of him, if his urine had ever been examined, he replied in the negative, thereby proving that symptoms alone had been treated, without reference to the origin of his complaint, whatever that might be. I directed him to bring me a sample of his urine, and on examination, found it loaded with octohedral crystals of oxalate of lime, among which were a number of the dumb bell form. It was an easy matter for me to give a most favorable prognosis, as well as to assure the patient that the spermatorrhœa was a mere symptom, and that he had not the slightest cause to dread *impotence*, which had appeared to him as a hideous spectre. I placed him upon nitro-muriatic acid in a simple bitter infusion, at the same time ordering the soluble phosphate of iron and an occasional compound rhubarb pill to prevent constipation of the bowels; giving him also, clear and emphatic written instructions regarding diet and exercise. I neglected to keep notes of this case, but by the end of March, he was entirely free from all complaint, his appearance was immensely improved, and he declared that he enjoyed better health than he ever had in his life; there has been no return of any one of the symptoms since.

On July 16th, I was requested to call upon a gentleman, thirty two years of age, married, of nervous, excitable temperament, who was suffering from very painful *boils*. He had just returned from a visit to Europe, whither he had been for the benefit of his health, but it seemed with but little success. On the evening of the 18th, I found him lying motionless and speechless, hands and tongue cramped, suffering agony from an intense *headache*,

which, his wife stated, he was often subject to; unable, under the circumstances, to arrive at any conclusion respecting the origin or cause of this distressing symptom, and the only indication being to relieve the pain and induce sleep, I prescribed bromide of potassium in thirty grain doses, repeated every half-hour, until the effect was produced. At ten o'clock, the same night, I found him sleeping soundly, and the next morning he was free from pain.

I then obtained a history of the case. He had always been, what is commonly called, somewhat delicate, and had been subject to attacks of headache, such as I had witnessed, for sixteen years; at such times, his vision became impaired, and during the attack, he would sometimes be perfectly blind. He had been subject to frequent involuntary seminal emissions, accompanied of course, by the never-failing dread of impotence, this mental symptom preying upon a temperament naturally nervous and excitable, and rendering matters ten times worse. For four or five years past, he had suffered from irritative dyspepsia, he had scarcely any appetite, his entire system seemed to be thoroughly out of repair, and finally, feeling every day worse, he decided to go to Europe, and try the effect of change of air and climate at some of the ferruginous springs in Germany; this course received the counsel of his attending physician at the time. He left in February, and went to the Canstaadt Springs in Wurtemberg. Although he had not been troubled with seminal emissions for more than a year, he was treated for *spermatorrhœa*, while at the Springs, his physician assuring him that *that* was the cause of all his misery, and that it had been overlooked and neglected by his medical attendant at home. During his stay at the Springs, he felt somewhat better, and at times indeed, almost perfectly well. He returned to this country in July, came home without any delay, after landing at New York, and as I have stated, came under my treatment on the 16th of same month; all of the old symptoms, excepting the so-called spermatorrhœa, having returned, and he had become an inveterate smoker besides—was scarcely ever without his pipe, except at meal times.

On passing the symptoms in review,—the dyspepsia, the headaches; the boils; the lassitude; the melancholy and the seminal emissions (although they had ceased), I was at once convinced that I had to deal with a most severe and long standing, long neglected case of oxaluria. On July 20th, I examined a specimen of the urine passed overnight and in the morning, the true *urina-sanguinis*; it was excessively acid, and of sp. gr., 1030; on placing a drop upon a slip of glass under the microscope, I at once detected a number of crystals of oxalate of lime. After two days repose, on decanting the supernatant liquid, a copious red sand was found deposited in the lower stratum in the test tube; this was seen to consist of most splendid, aggregated lozenges of *uric acid*, while the intervening spaces in the entire field of the microscope, were crowded with beautiful octohedral crystals of oxalate of lime, of sizes varying from the 1-1000 of an inch in diameter, down to what appeared as mere glistening points. I allowed this urine to stand for three days, the temperature in my office ranging from 75° to 82° F., and before throwing it away, found it remaining strongly acid; this is a very frequent circumstance in oxaluria, the ammoniacal decomposition taking place very slowly.

I at once explained to my patient his condition, and so assured did I feel regarding the prognosis of the case, that I told him, if he followed my instructions implicitly, he would be free from his distressing malady within six months. I gave him written directions as to habits, drink, diet etc., especially respecting the use of butter or sugar, and entirely prohibiting fats, pastry, tomatoes, onions and beer. I permitted him to drink a tumblerful of rhine wine at dinner, and to smoke after each meal; required that he should retire before eleven at night, and rise by seven in the morning; that he should take a cold bath at least once daily, using the flesh brush vigorously; that he should take sufficient exercise, allow ample time to eat and enjoy his meals, and that he should at once wear suitable underclothing. I then prescribed the nitro-muriatic acid in infusion of serpentaria before meals, and the syrup of phosphates of iron, quinia and strychnia, thirty drops after each meal.

July 28th.—Urine of sp. gr. 1025; acid; lozenges of uric acid discovered as before; not so much oxalate of lime. The condition of the patient was already much improved: his appetite was good and he was able to relish *meat*, for which he had previously so great a distaste as to be unable to eat more than a mouthful at dinner.

August 5th.—Urine sp. gr. 1030; no uric acid. By displacement with water, after heating and subsidence, a large number of the octohedral crystals of oxalate of lime became visible. This specimen, after standing two days (Aug. 7), but faintly reddened litmus paper, and on microscopic examination, a few large and finely formed crystals of triple phosphate were discovered, showing that alkaline fermentation had begun.

August 14th.—Urine sp. gr. 1030; acid; still containing oxalate of lime in large quantity. August 27th.—Same—some of the crystals being larger than I had ever seen.

During this time the patient *felt* constant improvement. The appetite remained good, and he had but one very slight attack of headache, which I happened to witness in its incipency, and at once administered three grains of valerianate of ammonia, shortly after which he felt perfectly well. Up to August 31 the medicines had been continued without change, except to increase the dose of syrup of phosphates. I now ordered the following prescription, the basis being as before the nitro-muriatic acid:

R. Acidi Nitrici dil.....℥i.
 " Hydrochlorici dil.....℥ii M.

Post quartam horam, adde

Vini Colchici sem.....℥ss.

Syrupi Zingiberis.....℥i ss.

Infusi Serpentariæ.....℥x M.

S.—Tablespoonful in wineglass-ful of water, before each meal.
 The other directions as before.

On September 10th, the urine was of sp. gr. 1031; acid; by heating, decantation, and replacing the liquid with water, a few very large octohedral and several very small ones were discoverable under the microscope, showing a great diminution as compared with the specimen examined August 27th.

October 8th.—Urine acid, sp. gr. 1030; no uric acid; no oxalate of lime; no crystalline deposit whatever. The microscope dis-

covered an abundant amount of nucleated and squamous vesical epithelium.

The patient, by his own statement at the present time, is in the enjoyment of better health than he has known for years; his appetite and digestion are good, and there has been no return, so far, of any of the former symptoms.*

The pathology of oxalate of lime, its relation to urea and its connection with food, have been amply treated in the works of Golding Bird, Roberts and others. The use of various articles of vegetable diet, as rhubarb, sorrel, tomatoes, onions, etc., is well known to be a frequent *accidental* source of oxalate of lime in the urine,—these vegetables containing oxalic acid in large quantity. So also sugars and fats are easily convertible into oxalic acid, both within and without the system. Oxalate of lime, therefore, *may* appear in the urine without any special disease influencing its presence. But this must not be confounded with such conditions as I have mentioned in the cases cited, especially in the last, where all substances containing the acid, or capable of being converted thereto, were excluded from the system. It must not be forgotten either, that I selected for examination, not the urine passed shortly after a meal, but that passed during and after the night's rest—the *urina sanguinis*—containing the effete matters derived from the blood itself; and it has been proved, by actual demonstration, that in such cases the blood does contain the oxalate of lime in substance.

Now, then, whence is this foreign body derived in this disease? What is its pathological origin? On carefully studying the pages of Dr. Golding Bird, I do not find what, to my mind, is a satisfactory explanation. It is true, he accounts in a measure for its appearance as due very often to the conversion of uric into oxalic acid, or the direct transformation of urea into this substance. In all cases of oxaluria the urine is of high specific gravity, from excess of urea, often crystallizing into a solid mass on the addition of strong nitric acid, and not unfrequently a copious deposit of uric acid is associated with the oxalate of lime, as exemplified in the case I have just described. In certain cases, this

*This was in November, 1869. More than three months have elapsed (Jan. 26th, 1870): the patient has continued to enjoy uninterrupted good health.

theory may be correct, and allowing it to be so, we should thus trace the origin of oxalate of lime to the mal-assimilation of nitrogenized food, in connection with certain forms of irritative dyspepsia.

I am, however, inclined to believe that there is something very different from this, and that one of the lurking causes, an important, if not a chief one, is *hypo-oxygenation of the blood*. It is now well known, that a number of the so-called miasmatic diseases are almost, if not entirely dependent for their origin, on this condition, particularly cholera and yellow fever. In these diseases, the blood is found after death, to be dark, syrupy—in short, presenting an appearance similar to defibrinated blood through which a current of sulphuretted hydrogen has been passed; but it must ever be borne in mind, that there are secondary causes influencing this terrible change; the defect in oxygenation is but the beginning, and decomposition ensues even before death, sulphuretted hydrogen and ammonia being rapidly generated, dissolving the blood corpuscles and fibrin and entirely changing the character of the vital fluid.

If under ordinary circumstances, the supply of oxygen necessary to the blood be cut off or materially diminished, we have poisoning from accumulation of *carbonic acid* and *carbonic oxide*, the components of *oxalic acid*; $\text{C O} \text{ plus } \text{C O}^2 = \text{C}^2 \text{ O}^3$, as the most superficial reader of chemistry is well aware; indeed this is a simple mathematical proposition. Now, whenever death ensues from oxaluria, the patient always dies from coma, precisely as in poisoning by ingestion of oxalic acid, largely diluted. (I except some cases where death has been hastened by the irritation produced by the mulberry calculus, when the disease has proceeded so far, and been allowed to run its course, although even then, the blood is so charged with the poison that the shattered system more easily succumbs to the surgical disease.)

What is the *cause* of this hypo-oxygenation (in all cases where it exists), is matter for deeper reflection and research, and will yet be the subject of great and varied labor—indeed the medical profession is just now but at the very threshold of nosology—old established ideas, as well as many of modern date are being up-turned, while comparatively, very few of a satisfactory nature are yet substituted.

Now let us see whether I can at all support my theory, in the rationale of the treatment of the disease under discussion. After all external sources from which the poison can be derived, have been cut off, the most important medicament that we employ, and one that seldom fails to fulfil the requirements, is nitric acid, or preferably nitro-muriatic, more correctly termed nitro-hydrochloric acid. Now be it remembered that the compounds of nitrogen are among the most easily decomposed in nature; nitric acid is thus one of the most powerful oxydizing agents with which we are acquainted. In what, therefore, consists the advantage of employing the nitro-hydrochloric acid? In prescribing a mixture containing it, it will be noticed that I have directed the two acids, the nitric and the hydrochloric, to be mixed and allowed to stand for several minutes before adding the other ingredients. Aqua regia is not a mere mixture of the two acids, as is often erroneously supposed; it is an entirely new compound, consisting of water, nitroso-nitric acid (improperly termed hyponitric acid), and free chlorine. $\text{N O}^5 \text{ plus H. Cl} = \text{N O}^4 \text{ plus H O plus Cl}$. We have therefore, a more ready and extended means of evolving oxygen, and that too, entirely in its active form—*ozone*. In the first place, the nitroso-nitric acid (N. O^4), is a most unstable compound, readily giving up its oxygen; it is indeed as powerful an oxydizing agent as nitric acid; chlorine has been considered by some chemists to be an allotropic form of oxygen, and to owe many of its peculiar properties to this circumstance; whether this opinion be correct or not, it is certain that by its powerful affinity for hydrogen, water is decomposed, hydrochloric acid being formed, and oxygen, in the form of ozone set free. If we assume that such is the effect of the nitro-hydrochloric acid, when administered, we have a recomposition taking place in the system, all of the oxygen being perhaps eliminated and employed in the restoration of the blood, while it is probable (or at least, not improbable), that hydrochlorate of ammonia, a powerful eliminant is at the same time formed, and acting upon the secretory surfaces, assists in expelling the poison from the system.

With regard to *colchicum*, which is sometimes employed with benefit in obstinate cases, and I prescribed it in the last, I consider it useful only as an adjuvant, in connection with the nitro-hydro-

chloric acid. It exerts no *chemical* effect whatever, and, to use the language of Dr. Golding Bird, "The rationale of its action is probably traceable, not to any specific power it exercises over any form of urinary deposit in particular, but rather in the influence it exerts over the secreting functions, controlling the action of the heart (on which it appears to act as a direct sedative), and consequently the capillary circulation, the very seat of secretion."

The employment of the various preparations of iron and other tonics, is of course indicated by the anæmic condition always prevailing in every form of dyspepsia, and particularly in that which is almost invariably found to exist in connection with this disease.

ART. V.—*Case of Fatal Monstrosity—Labor retarded thereby.* By
GEO. WHITFIELD, M. D., Marengo Co., Alabama.

A VERY robust white woman, æt. 19, seven months pregnant, was threatened with abortion July 27th, 1863: Pains severe and recurring every fifteen minutes; *os tinæ* dilated sufficiently to admit point of index finger; no *show*; uterine tumor indicating progress to *full term*, fundus above umbilicus, although woman, husband and friends asserted positively that she was but seven months gone. R. Morphine sulph. gr. one-sixth hypodermically; but one more slight pain a few minutes after.

Twenty-four hours later, on July 28th, pains returned; same prescription, same result.

Twenty four hours later, on July 29th, pains returned. Upon my arrival, was informed by my friend, Dr. M. Matkin, who had been called in my absence, that it was too late to prevent the miscarriage, as the bag of waters was broken and the head well engaged in the *os*. Nothing worthy of note occurred in the progress of the labor until after the head was born, when it required *four strong pains* to expel the body. After the fœtus was entirely expelled, it was still attached by the buttocks to the mother in some way or other not yet explicable. While manipulating in wonder to

ascertain the difficulty, another powerful uterine effort expelled what at first sight appeared to be another head attached to the lower end of the spine. The "double-headed fœtus," as we at first took it to be, breathed about ten minutes and died.

Upon closer inspection, the supposed supernumerary head proved to be a tumor, just about the size, shape and color of the real head, of a soft, obscurely fluctuating feel, covered with natural skin of rather coarse texture, having on its dorsal surface a large superficial vein with arborescent arrangement running upwards and losing itself on the back. Its pedicle very short, about one and a half inches in diameter, attached to the buttocks and exactly opposite the extremity of the coccyx. On the anterior aspect of the pedicle were the well developed penis and testes, and one inch below these the anus pervious in the normal direction to a six inch probe its entire length.

Finding it was not a head, we now supposed it to be an enormous tumor, of the nature of *spina bifida*; but no persuasion would induce the parents to part from the fœtus, or even the tumor, consenting, however, to its dissection.

Dissection.—The mass was quite vascular, bleeding freely wherever cut, having the appearance of muscular fibre, running in all directions and enclosing five or six cysts, varying in size from that of a pigeon's egg to a small buck-shot, and filled with straw-colored fluid. Within the anterior part, just below the anus, were a few transverse streaks of soft bone. The mass had no connection with the spinal canal. We could find no satisfactory cause for the miscarriage, as the woman was in perfect health and had been subjected to no disturbing causes, but supposed that the uterus *might* have cast off its burden, because it had arrived at the nine months in *size* and *weight* if not in *age*, recollecting, however, that we had seen the uterus submit without resistance to much greater distention and weight in cases of plural births.

We now easily understood why *four strong* pains were necessary to expel the body after the head was extruded. Between the fundus uteri and the fœtus a soft cushion (the tumor) intervened.

Neither of us had ever met with just such another case, nor can I find recorded any foetal tumors of such immense size.

I am led to the reflection that if this child had gone to its full time it would have lived and perhaps thrived with the tumor hung to it, growing perhaps *pari passu*, as it was quite vascular, well nourished and seemed to possess all the necessary structural requisites, for a vigorous and normal nutrition.

As this case was an interesting one to me, I have hoped a report of it might be so to others.

ART. VI.—*A New Stem Pessary, Supported by Elastic Bands :*

By EDMOND SOUCHON, M. D., Assistant to the Professor of Anatomy, University of La , and Visiting Surgeon to the Charity Hospital, New Orleans.

THE difficulty of fitting properly a self-retaining pessary into the vagina, in cases of displacements of the uterus, renders it highly desirable to have such a pessary as might be easily fitted and kept in place.

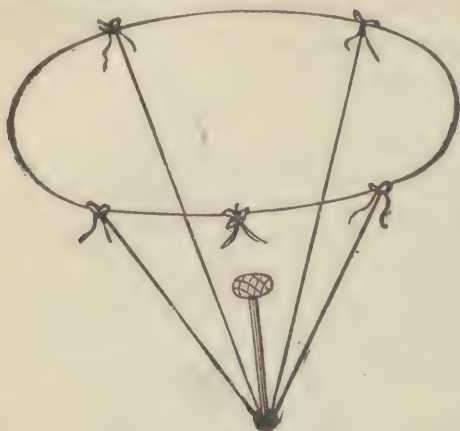
Several contrivances to that effect have been invented, but all have objections to their general use, amongst which are their costliness, the complication of their make, by which they are readily put out of order ; and lastly, the difficulty, in some places, especially in the country, of procuring the instruments.

The pessary I propose is composed of an elliptical ball, about the size of a pigeon's egg, supported by a round stem three or four inches long, presenting at its extremity a hole half an inch deep, into which is fitted a movable ring-peg. Through the ring are passed two gum elastic bands which are made fast, posteriorly and anteriorly, to a gum-elastic belt. This belt is not placed around the waist, but around the hips, between the trochanter and the crest of the ilium, thus resting on fixed parts.

The ends of the bands are tied on each side of the middle line, so as to be free of the vulva and the anus.

When the instrument is applied, the ball should be placed in the anterior cul-de-sac if there is an anterversion, and in the

posterior cul-de-sac, if there is a retroversion. In the first instance, the stem should be directed almost vertically, whilst in the second, it should be directed from backwards forwards, in the direction of the axis of the uterus. In cases of prolapsus of the uterus, it is indifferent whether the ball is placed in the anterior or in the posterior cul-de-sac, but the stem should have the direction of the axis of the uterus.



For cleansing the pessary, it is not necessary to undo the elastic bands. All there is to do, is to remove the ring-peg from the end of the stem, and the pessary is easily taken off.

The ball and the stem of the pessary can be made of any materials; wood, ivory, india-rubber, silver, etc., but I am in the habit of working the ball out of a piece of ordinary cork, with a file and sand paper, and the stem of any piece of wood. As regards the elastic bands, I use gum-elastic tubes about the size of a goose-quill, which are found in drug stores.

This pessary is as effective and simple as any that has been presented yet, and being supported by elastic bands, accommodates itself to every movement and position of the patient. The belt being placed around the hips is less apt to be displaced than if secured around the waist. The use of elastic supports is original with me, as far as I am informed.

Lastly, this pessary is so simple, that it can be readily made, and at very little cost.

ART. VII.—*Arterial Anomaly*: By Dr. A. P. HALL. ✓

RIGHT subclavian artery took its origin from the arch of the aorta near its origin from the heart, thyroid axis, internal mammary, superior intercostals normal in branches, position and distribution.

Right and left carotid arteries have a common origin from the top of the arch, three-quarters of an inch long.

Right vertebral artery took its origin from the right subclavian artery one inch from the aortic arch.

Left subclavian and vertebral arteries took their origin from the arch of the aorta, left subclavian normal in position to relative parts, except abnormal distribution of branches.

Internal mammary artery took its origin from the outer third about two inches beyond the outer edge of the scalenus anticus muscle, ran forward and inwards two and one half inches to reach the upper border of the first rib, and then took a downward course into the chest.

The supra-scapular artery took its origin from the middle of the internal mammary artery before its entry into the chest. Its distribution was normal with respect to the relative parts.

The thyroid axis on the left subclavian was natural in position, but irregular in distribution, only the transversalis colli, and inferior thyroid arteries were given off. The profunda cervicis and cervicalis ascendens were given off from the subclavian artery in the first part of its course, on both sides of the thyroid axis.

CLINICAL MEMORANDA.

Memoranda of University Medical Clinic, Charity Hospital, New Orleans, La., 1869-1870: By JOSEPH JONES, M. D., Professor of Chemistry, Medical Department University of Louisiana, New Orleans.

SECTION II.—DROPSY CONSIDERED AS A SYMPTOM OF VARIOUS DISEASES.

SUMMARY.

1. Dropsy arising from Derangements in the Nutrition of the Tissues, leading either to an Increase of Secretion, or Diminution of Absorption.

Acute Dropsy.

Case XVI.—Sudden Accumulation of Fluid in the Peritoneum. Researches of Andral, Becquerel and Rodier on the causes of Acute Dropsy. Constitution of the Blood in Acute Dropsy. Treatment of Acute Dropsy.

2. Dropsy arising from Derangements or Alterations of the Blood, leading to Derangement of the Nutrition of the Tissues, with an increase of Secretion or a diminution of Absorption. Effects of the prolonged action of the Malarial Poison in Deranging the Constitution of the Blood, and in inducing Dropsy. Constitution of the Blood in Malarial Fever. Constitution of the Blood in Marsh Cachexia. Treatment of Dropsy arising from the action of the Malarial Poison.

3. Dropsy arising from Derangements of the Circulatory Apparatus, attended with Venous Obstruction and Congestion, increased Serous Effusion from the Distended Blood-vessels and Diminished Absorption.

- (a) Cardiac Dropsy resulting from Structural Alterations of the Heart and large Blood-vessels.

Case XVII.—Cardiac Dropsy; Dilatation of Heart; Death.

Case XVIII.—Cardiac Dropsy.

Case XIX.—Dilatation of Heart; General Anasarca; Death.

Case XX.—Dilatation of Cavities of Heart; Universal Dropsy.

Case XXI.—Articular Rheumatism; Valvular Disease.

Case XXII.—Aneurism of Internal Iliac.

Case XXIII.—Aneurism of Descending Aorta.

Case XXIV.—Aneurism of Ascending Aorta.

Case XXV.—Aneurism of Arch of Aorta.

Case XXVI.—Aneurism of Arch of Aorta.

Case XXVII.—Aneurism of Arch of Aorta and Ascending Aorta; Dilatation of Heart.

Treatment of Cardiac Dropsy.

- (b) Hepatic Dropsy, arising from some Obstruction to the Circulation of the Blood, through the Liver. Cirrhosis, Fatty Degeneration and Atrophy of the Liver.

Case XXVIII.—Dropsy resulting from Obstruction of the Portal Circulation in Cirrhosis of the Liver.

Case XXIX.—Dropsy resulting from Cirrhosis of the Liver and Cardiac Disease.

Treatment of Hepatic Dropsy.

4. Dropsy arising from Derangement or Lesion of those Organs which regulate the amount of the Blood, as well as its Constitution, by regulating the amount of the Watery Element, and by the elimination of Excrementitious Material. Dropsy arising from Diseases of the Kidney.

Case XXX.—Dropsy resulting from Bright's Disease of Kidney.

Case XXXI.—Bright's Disease of Kidney. Anasarca.

Case XXXII.—Bright's Disease of Kidney.

Case XXXIII.—Bright's Disease of Kidney.

Treatment of Dropsy arising from Disease of Kidneys.

Tabular Statement of Cases treated in Charity Hospital, in Medical Service of Joseph Jones.

Pathological Preparations preserved and deposited in the Medical Department of the University of Louisiana, illustrating the Clinical Memoranda of Joseph Jones.

Acknowledgment of the Services rendered by the Medical Class of the University of Louisiana.

SECTION II.—DROPSY CONSIDERED AS A SYMPTOM OF VARIOUS DISEASES.

Useful results in clinical instruction, may sometimes be obtained, by grouping together the more important facts relating to some grave and striking symptom, and by investigating the relations of this symptom to a large number of diseases. No symptom is more striking or more uniformly grave, than dropsy, and as the practitioner is often tempted to treat this distressing complication of a number of dissimilar diseases, upon a uniform plan of routine practice, it was thought important to demonstrate to the students, its connection with various diseased states. We are thus enabled to group together many of the most interesting cases of disease of the heart and circulatory system, and of the abdominal organs, occurring in our medical service in the Charity Hospital.

Each of the diseases, illustrated under the present section, has received special consideration of itself, and has been carefully described and illustrated in the daily lectures at the bedside in

the wards. Thus during the last course of lectures of the Medical Department of the University of Louisiana, I delivered in the wards and in the amphitheatre, one hundred and twenty clinical lectures, which embraced amongst other subjects and diseases, the following: Method of investigating disease and of recording cases; instruments employed in the investigation of diseases; the value and use of the thermometer in the investigation and diagnosis of diseases; chemical and microscopical examination, and analysis of blood and urine; methods of physical exploration; auscultation and percussion; the mechanical appliances and instruments employed by the general practitioner in the investigation and treatment of disease; fevers; intermittent, remittent, congestive or pernicious malarial fevers; yellow fever; typhus and typhoid fevers; small-pox; vaccination; spurious vaccination; measles; scarlet fever; diphtheria; pneumonia; bronchitis; pleuritis; peritonitis; cerebro-spinal meningitis; tetanus; paralysis; epilepsy; insanity; neuralgia; diseases of heart; diseases of abdominal viscera and genito-urinary apparatus; acute and chronic diarrhoea and dysentery; diseases of the liver; hepatitis; jaundice; abscess of liver; various deposits in the liver, as cancerous tuberculous and syphilitic; atrophy, waxy degeneration, cirrhosis and fatty degeneration of liver; Bright's disease of kidney; waxy and fatty degeneration of kidney; phthisis; cancer; scurvy; scrofula; syphilis; gonorrhoea; ulcers; mortification; composition and variations of the blood and urine in various diseases.

In the present section therefore, whilst the cases recorded are grouped so as to illustrate one of the most striking symptoms, common to a number of diseased states, at the same time, the facts and commentaries, will serve to recall to the students, many points illustrated in the daily systematic lectures by the bedside.

Whilst the student is thus taught by experience, that oftentimes no small difficulty is encountered, in determining to which of its many sources, a particular symptom, common to many diseases, should be referred; at the same time, he is impressed with the absolute necessity of acquiring definite notions of the special disease, or condition on which the symptom depends.

It has been proposed to erase dropsy from the list of substantive diseases, and to place it in the catalogue of mere symptoms, and connect it with the original maladies upon which the effusions or accumulations of fluids depend. It would appear however, that it is destined to be considered as a special disease or diseased state by systematic writers, from the great difficulty experienced in many cases, of determining during the life of the patient, the lesions upon which it depends, and also because to the practitioner, dropsy is in all cases, something more than an effect or symptom of disease, as the dropsical effusion, may become the cause of other and most distressing symptoms, causing, in some cases, extensive destruction of tissue, and in others, embarrassing by its pressure, important functions, and even extinguishing life; and finally because the removal of the dropsy, even when the original cause remains, may restore the patient to a state of comparative comfort and health.

We do not propose to enter into an exhaustive consideration of all the causes of dropsy, but desire chiefly to examine the causes which were illustrated by cases actually observed by the students, of the Medical Department of the University of Louisiana.

It will be necessary in the first place, to recall the attention of the students, to the definition of certain terms employed by systematic writers. DROPSY, (formerly written hydropsy, whence by contraction, *dropsy*): a morbid accumulation of watery or serous fluid in the areolar tissue or serous cavities, arising either from increased exhalation, or from diminished absorption, each of which conditions depend upon antecedent states of disease. When limited to one part, the term *œdema* is employed, denoting swelling produced by the accumulation of serous fluid in the interstices of the areolar texture, which swelling is soft, yields under the finger, preserves the impression for some time, and is pale and without pain. When the dropsy is extensive, the term *anasarca*, is employed and by some writers as synonymous with *general dropsy*. When limited to the peritoneum, it is called abdominal dropsy, or *ascites*. Specific names are also applied, as descriptive of the sack, tissue or organ involved; as when it affects the pleura, *hydrothorax*, or dropsy of the chest; when the pericardium, *hydropericardium*, or *dropsy of the heart*,

when the arachnoid, *hydrocephalus*, or *dropsy of the brain*; when the spine, *hydrorachitis*; when the testicle, hydrocele; when the uterus, *hydrometia*; dropsy dependent upon disease of the liver, *hydrops hepaticus*; dropsy dependent upon disease of the kidney; *hydrops renalis*.

During life, there is a continuous circulation of the fluids and elements of nutrition, not only by means of the heart and blood-vessels, but interstitially by a slower process of osmosis through the walls of the blood-vessels and absorbents, and through the individual constituents, the cells and fibres of the various organs and tissues. Although not so rapid or so manifest to the senses as the greater circulation, the constant and slow interchange of the fluids of the body is of great if not of equal importance. The fluid constantly secreted by the closed cavities and interstitial tissues, is as constantly re-absorbed into the circulation: when, therefore, the serous fluid accumulates in the tissues or cavities, without active inflammation, either the quantity of fluid secreted has been abnormally increased, without a corresponding increase in the process of absorption, or it may be with an actual diminution of absorption,—or else the secretion has continued the same as in health, whilst the absorption has been diminished.

Derangements of the due relationship of secretion to absorption in the tissues and cavities of the body, may depend upon—

1st. *Derangements in the nutrition of the tissues, leading either to an increase of secretion or a diminution of absorption.*

2d. *Derangements or alterations of the blood, leading to derangement of the nutrition of the tissues, with an increase of secretion or a diminution of absorption.*

3d. *Derangements of the circulatory apparatus, attended with venous obstruction and congestion, increased serous effusion from the distended blood-vessels and diminished absorption.*

4th. *Derangement of the function of those organs, which regulate the amount of the blood, as well as its constitution, by regulating the amount of the watery element, and by the elimination of excrementitious materials.*

It is important that the student should bear in mind the distinction between *transudations* and *exudations*:

Transudations are not, properly, liquor sanguinis, although

derived from the blood, but consist of water containing more or less of the constituents of the serum of the blood—the salts and albumen—without any appreciable amount of the fibrin or coagulable element. They, therefore, preserve the liquid state; and the act of transudation relates chiefly to the physical properties of the tissues.

In transudation, there is no solution of continuity or rupture, the watery portion of the serum of the blood simply percolating through the porous walls of the blood-vessels; and transudation is usually the result either of a diminution of the albumenoid elements and salts of the serum of the blood, or of undue hydraulic pressure, or of both causes combined. Effusions, or exudations, devoid of fibrin and cytoblasts, and incapable of organization, when retained, are characteristic of dropsy. Occurring upon mucous surfaces which communicate with the exterior, they constitute *fluxes*.

Exudations contain; on the other hand, fibrin and cytoblasts or germ cells, and are capable of coagulation and organization. Exudations are the result of inflammation, whilst in true dropsy this morbid process is wanting.

Inflammation of serous membranes may be attended with more or less effusion, but the liquid is turbid from the admixture of coagulable lymph, and in this respect differs from the clear serous liquid of true dropsy.

1. *Dropsy arising from derangements in the Nutrition of the Tissues leading either to an increase of Secretion, or a diminution of Absorption.*

This division is placed first, not only because it should include the most simple and uncomplicated cases of dropsy, but also because the progress of pathological anatomy and chemistry during the past thirty years, has greatly modified the ideas, formerly entertained respecting dropsy, and the class of dropsies long regarded as idiopathic or essential, has become so restricted, as almost to have disappeared from nosological classifications. Some pathologists have so far restricted the causes, as to admit only two species of dropsy, viz: the so called mechanical dropsies,

the result of an obstacle presented to the flow of blood, whether in the central organ of the circulation, or in a vascular trunk of a certain size; and dropsies symptomatic of a special modification of the blood, consisting exclusively in a decrease in the proportion of the albumen to the serum.

The question involved in the preceding division, does not appear to have been definitely settled; and even in the apparent simple form in which it is now stated, important questions relating to the process of secretion and nutrition, and the connection of the blood with these acts are involved.

Cases of dropsy are not infrequently observed, both in hospital and private practice, which are for the most part acute, and in which no trace of albumen is found in the urine, and the dependence of which, upon some alteration of the blood, or derangement of the action of the kidneys has not been fully established.

Sir Thomas Watson has described a form of dropsy which he calls *active ascites*, where fluid is rapidly thrown out into the peritoneum and cellular tissue of the extremities, after exposure to cold and wet, without fever or any sign of inflammation, and independent of any disease of the heart, liver or kidneys; and where after a short time the fluid is again absorbed. And he gives the following as a typical case of the phenomena of *active dropsy*; a laborer is engaged in some employment, which, while it requires considerable bodily exertion, and causes copious perspiration, necessarily exposes him also to the influence of external cold and moisture; he has been digging (perhaps) in a wet ditch, in winter time, and he pauses to take his meal; or he has been unloading his wagon, and rides home, some miles, in a heavy rain that wets him to the skin; or he has been mowing, in the heat of summer, and lies down to sleep upon the damp grass. All these suppositions are derived from actual occurrences. The perspiration is suddenly checked; and in the course of a few hours he becomes universally anasarcaous. Sir Thomas Watson explains the sudden occurrence of dropsy in such cases, by the sudden check of the exhalation of water from the skin and kidneys, lungs and bowels. "But supposing the exhalation from

one of these surfaces to be much diminished, or to cease, without a corresponding increase of function in the related organ, or in any excreting organ communicating with the exterior, then dropsy, in some form or degree, is very apt to rise. The aqueous liquid thus detained in the blood-vessels, seeks, and at length finds some unnatural and inward vent, and is poured forth into the areolar tissue, or into the cavities bounded by the serous membranes."

Dr. Charles Murchison, in his "clinical lectures on diseases of the liver, jaundice and abdominal dropsy," has recorded the following interesting case of what might be termed acute dropsy.

CASE XVI.—Symptoms of Colic followed by signs of Fluid in the Peritoneum.

Edward J., aged 21, who had formerly been a printer, but had been working for six weeks at a carver and gilder's, was admitted into the Middlesex Hospital, under my care, on April 12, 1868. On April 6, he had been suddenly seized with severe pain in the abdomen and retching. The pain had been constant ever since, but had been also liable to some exacerbations. The vomiting had recurred daily, but had not been so violent as at first. The bowels had acted on the 8th and 10th, after castor oil and laudanum. Shortly before his attack, the patient had been suffering from gonorrhœa, and he stated that some years before he had a similar, though much less severe attack, of abdominal pain.

On admission, the patient complained of constant pain in the abdomen, with frequent acute exacerbations. The pain was increased by any movement, and there was also considerable tenderness over the abdomen, most marked over the cæcum. The abdomen was distended and tympanitic, and the breathing was entirely thoracic. There was frequent retching of scanty bilious matter. There was a dark red (not blue) line along the margin of the gums. The tongue was moist and only slightly furred, there was thirst, and the bowels had not been open for two days. The pulse was 84; the skin was cool, and the temperature under the tongue 97°. There was no albumen in the urine.

The patient was ordered a warm bath, warm fomentations to the belly, an enema of three pints of barley-water with four drachms of tincture of assafoetida, and a grain of opium every four hours.

The enema brought away two copious motions, but with no relief to the pain. On April 13th, a third of a grain of extract of belladonna was ordered every three hours, but next day the pain, tenderness, and tension of the abdomen had increased although the pulse was only 72, and the temperature 97°. He was again ordered a grain of opium every four hours, a draught of castor oil and laudanum and frequent enemata. He also continued taking six grains of opium a day until April 17th, and then three grains until April 23d. Under this treatment the bowels were freely moved, and the paroxysms of pain became less severe; but he still had occasional vomiting, the abdomen grew larger and more tense, and on April 19th, there was unmistakable evidence of fluid in the peritoneum. A thrill could be propagated from one side to the other, on tapping, and where the patient was supine there was dullness on either flank, which varied with his position. He still had occasional paroxysms of pain, but no tenderness of the abdomen. The pulse, however, kept steadily at 72, and the temperature rarely exceeded 98°. The signs of fluid in the peritoneum with occasional slight paroxysms of pain continued until May 4th. After this the abdomen gradually became smaller, and on May 18th it had regained its normal size and presented no sign of fluid, and the patient left the hospital free from pain.

The researches of Andral, Becquerel and Rodier, rendered it probable that in these cases of acute dropsy, there is oftentimes, if not always, in the early stages, a congestion of the kidneys with the appearance of albumen in the urine.

Andral, after noticing the fact that sometimes individuals, who after exposure to some sudden cause of cold, are attacked a few hours after with anasarca, states that, after accounting for the dropsy by supposing that the sudden suppression of the cutaneous function of transpiration rapidly produced a superabundant exhalation of serum into the areola of the cellular tissue and the serous cavities, he was led to conclude that this kind of dropsy was dependent upon derangement of the kidneys.

A young man, previously in good health and strongly constituted, entered the hospital of La Charité with considerable anasarca and commencing ascites. He related to Andral that, a few days before, being abed and asleep, some of his comrades poured upon him a pot of cold urine, while he was in a state of perspiration. He got up naked in order to pursue them, and was very much chilled; he remained, said he, as though frozen. From the day following this occurrence, he began to perceive a slight degree of swelling, which rapidly augmented. The urine of this patient was examined and found to be albuminous. Andral concluded from this that the blood had been deprived by the kidneys of a certain amount of its albumen, and in this way accounted for the formation of the dropsy. *It is then upon the kidneys that the action of the cold had fallen.* This dropsy was not, moreover, of long duration; at the end of a fortnight, the cure was complete.

Becquerel and Rodier, in their pathological chemistry, have given the results of the analysis of the blood in eleven cases of *acute dropsy*.

The following is the *historical* resumé, which these authors give to establish the dependence of acute dropsy upon some alteration of the blood, although this dependence was proved merely by induction.

"Nine of the patients were males, and two were females. In all the disease set in rapidly under the following circumstances.

In one case it followed a sudden suppression of the catamenia from violent emotion; in a second, it occurred at the fifth month of pregnancy, but without any very appreciable cause; in a third it followed an attack of scarlatina; in four other cases it followed a long exposure to cold; in another it resulted from sleeping on the ground in the open air during the month of June; lastly, in three cases the cause was inappreciable. In two of these latter, the patients were suffering from a relapse of the disease.

Of these eleven patients, nine entered the hospital before the fourth, or after the eleventh day of the disease.

The primary phenomena were not the same in every case. In six, dropsy was the only

symptom; in two, it was accompanied by fever; in two others there was likewise a slight amount of fever, with vomiting and diarrhoea; while in another, there was vomiting coupled with an attack of jaundice.

On the admission of the patients into hospital, the only marked symptom was general anasarca of varying intensity, from slight but diffuse puffiness of the integuments up to a considerable infiltration of the sub-cutaneous cellular tissue. The skin was, as a rule, somewhat paler than usual. The remaining organs, and even those which had been affected at the outset of the disease, were in a healthy condition. The feverish symptoms had likewise disappeared. In nine of these patients the urine presented no trace of albumen, either on their entrance into, or during their whole stay in the hospital; it was perfectly natural moreover, both as regards quantity and chemical composition. In two cases however, the following phenomena were observed: in one man, who was admitted on the fourth day of the disease, a considerable amount of albumen was found in the urine on that and the succeeding day; on the sixth and seventh day it had gradually diminished; on the eighth it was barely discernible, and on the ninth day it had entirely disappeared. The dropsy, however, was not removed until the seventeenth day. In the second case, admitted on the fifth day of the disease, a small quantity of albumen was found on the sixth and seventh day, but none whatever on the eighth.

Of these eleven cases, nine were cured and two left the hospital relieved. In none did the disease last longer than a month.

An analysis of the blood was made in each of these cases and the mean results thus obtained will be found in the subjoined table:

ANALYSIS OF 1000 GRAMMES OF BLOOD.

	Mean.	Maxim'a.	Minim'a.
Specific gravity	1045.84	1053.30	1037.55
Water	830.78	.....	.....
Globules	104.58	134.88	70.10
Solid matters of the serum	61.87	65.62	57.24
Fibrin	2.67	4.10	1.25

ANALYSIS OF 1000 GRAMMES OF SERUM.

	Mean.	Maxim'a.	Minim'a.
Specific gravity	1022.61	1024.28	1020.05
Water	928.47	.....	.....
Albumen	58.52	63.18	51.12
Extractive matters and salts	13.01	17.14	7.74

The globules are less liable to decrease than in cachectic dropsy; they nevertheless fell, in one case to 70, and in another to 72. In three cases they were about 120 per 1000; in three others, between 100 and 120; and in five cases, between 100 and 110.

The fibrine underwent a marked diminution in two cases only, viz: between 1 and 2 per 1000; in six cases it varied from 3 to 6, while in three others it rose above 3 per 1000.

The albumen of the serum was always diminished, and in some instances this diminution was considerable; it ranged from 60 to 66 in four cases, and from 55 to 60 in six others, while in one case it fell as low as 51.02.

It is almost needless to add, that the specific gravity of both the blood and serum was always found to have fallen below the standard of health.

Such then is the history of acute dropsy. We have now to interpret and explain its attendant phenomena.

At first, two prominent facts present themselves to our notice; the one being the dropsy, and the other a modification of the blood, consisting in a decrease of the albumen, and of the specific gravity of the circulating fluid itself.

What is then the correlation of these two facts? Upon which of the two does the other depend, or are they independent of each other? To answer such questions, is somewhat more difficult than might be *a priori* imagined. If, in fact, we admit that the alteration of the blood precedes the dropsy, how are we to explain the decrease of the albumen in those cases, where there has not existed (as in cachectic dropsy) any material appreciable cause, to account for the impoverishment of the vital fluid? This difficulty however is not insurmountable, and the following simple explanation may perchance prove satisfactory:

Of the eleven cases quoted above, two were admitted before the seventh day of the disease.

What then did we find in these two cases? An expiring albuminuria, if we may be permitted to use such an expression. On admission, a certain amount of albumen is found in the urine, its decrease is watched, and about the eighth day it is found to disappear entirely. In such a case, the modification of the blood admits of easy explanation.

It is evident, in fact, that the following sequence of events took place: These two individuals whether under the influence of cold or of some other cause, were attacked with a certain amount of congestion of the kidney. This congestion was manifested by the escape of albumen along with the urine, which lasted as long as the congestion itself: viz., seven or eight days and then ceased. Under the influence of this escape of the albumen, the proportion of that element naturally existing in the blood became diminished, the density of the serum fell, and dropsy was produced. But the change in the composition of the blood, when once effected, lasts for some time after the disappearance of the albumen from the

urine, and as long as this change exists, so long will the dropsy likewise exist. Had these two patients not been seen until the eighth day of the disease, no albumen would have been found in the urine; the diminished amount of that constituent existing in the blood, together with the dropsy, could alone have been discovered, and their correlation would have been lost.

In these two cases this solution of the problem would appear simple and rational, nor do we think it can well be contested. But will it hold good with respect to the remaining nine cases? We think it will; and we admit the same, by induction it is true, but yet upon certain plausible reasons, which are the following:

1. As these nine patients were not admitted into hospital until after the seventh day of the disease, we may readily conceive the albumen to have disappeared from the urine previous to admission.

2. The symptomatic expression of the disease was the same in every case. In several of them its onset was marked by a combination of phenomena, sufficiently characteristic of acute congestion of the kidney (active hyperæmia).

3. The modification of the blood was the same in each of the eleven cases.

4. The progress and duration of the disease were likewise identical in each.

We may now, therefore, offer the following summary of our theory; for, however rational and satisfactory, it is still but a theory:

Under the influence of some cause or other, congestion of the kidney is produced. The congestion is indicated, along with other symptomatic phenomena, by the escape of a certain amount of albumen with the urine; this, ere long, diminishes the natural proportion of the albumen of the blood, and the latter condition in its turn gives rise to a greater or less degree of dropsy. We may here observe that, when this decrease of the albumen takes place rapidly, dropsy is produced with greater facility and with less diminution on the part of this constituent of the blood, than when it occurs in a chronic form. But the congestion of the kidney is generally of much shorter duration than the modification of the blood and its consecutive dropsy; it disappears therefore long before these latter phenomena, and if the patients are not examined until a certain time after the onset of the disease, they alone are observed, the escape of albumen with the urine having altogether ceased.

If the theory which we have thus propounded be the true one, it would seem advisable to designate the disease in question, as congestion or active hyperæmia of the kidney, rather than as acute dropsy from decrease of the albumen of the blood. We do not, however, deem ourselves authorized to make such a change, being unable, as yet, to elevate our hypothesis to the rank of a positive fact, at least in the majority of cases.¹⁷

These investigations of Becquerel and Rodier, conducted in the spirit of Philosophic inquiry, are of great value, in establishing the connection of acute dropsy with congestion of the kidneys. It would be more reasonable to suppose that the accompanying dropsical effusion was as much the result of the non-elimination of the elements of the urine, and the retention of the watery element, as the mere loss of albumen. I have witnessed the supervention of acute dropsy in patients who were exposed to cold, during convalescence from chicken pox, measles and scarlatina, within two days after the cause which produced congestion of the kidney, with almost complete cessation of its action. In such cases, the two or three ounces of urine excreted during the twenty-four hours, although loaded with albumen, were not sufficient in quantity to materially affect the composition of the blood. The most sudden case of acute dropsy, that I have ever witnessed, was attended with almost complete suppression of urine, as the result of exposure to cold during convalescence from variola; and uremic convulsions of the most violent character supervened.

The retention of the urea, and water normally excreted by the

kidneys, appears to be connected with the dropsical effusion, even more intimately than the loss of a small amount of albumen.

The treatment of acute dropsy should be based upon an accurate knowledge of the previous state of the patient, and the amount and composition of the urine.

When the kidneys are congested, and the urine is scant and loaded with albumen, and the patient suffers with fever, general uneasiness and gastric derangement, both general and local bloodletting may be practiced with benefit.

Leeches and cut-cups over the region of the kidneys will prove beneficial in relieving the congestion. After the albumen has disappeared from the urine, and in those cases in which its presence has been never detected, blood-letting is not indicated.

The diet should be light but nutritious, and composed largely of vegetable and farinaceous articles.

Various measures may be instituted to procure the removal of the effused fluid; as purgatives, hot air baths, diuretics and stimulating frictions.

When the kidneys are congested, *stimulating* diuretics should be avoided, and the *saline* diuretics should be employed. The bitartrate of potassa (cream of tartar), employed in the proportion of one ounce dissolved, or rather suspended in one pint of the infusion of juniper berries (*juniperi fructus*), may be administered during the twenty-four hours. If the gentle stimulant effect of the volatile oil and resin of the juniper berries be contra-indicated, the cream of tartar may be given suspended in one pint of water. A wine glassful of this mixture may be taken every two or three hours. After the relief of the kidneys, and the establishment of the excretion of the urea in its normal amount, good diet, together with tonics, especially cinchona and the vegetable bitters, may be employed to restore the blood to the normal standard.

2. *Dropsy arising from derangement or alterations of the Blood, leading to derangement of the Nutrition of the Tissues, with an increase of Secretion, or a diminution of Absorption.*

The prolonged action of the malarial poison, not unfrequently

induces such changes in the composition of the blood and such derangements of the liver and spleen, as to lead to the effusion of serous fluid into the areolar tissue and peritoneum. The changes of the blood induced by malarial fever, appear to be the chief cause of the dropsical effusions, although in some cases this symptom may be attributed to the mechanical obstacle, afforded by the enlarged spleen and liver. Several well marked cases of dropsy resulting from the prolonged action of the malarial poison have been from time to time presented to the Medical Class of the University of Louisiana, in which no albumen could be detected in the urine, nor any diminution of this secretion, nor any very great enlargement of the liver and spleen. Such cases were uniformly characterized by a sallow, anæmic complexion, and watery blood, poor in solid constituents. The effects of the malarial poison in altering the composition of the blood, are shown in the following table embodying the results of my investigations:

TABLE, ILLUSTRATING THE CHANGES OF THE BLOOD IN MALARIAL FEVER, FROM INVESTIGATIONS AND ANALYSES BY JOSEPH JONES, M. D., PROFESSOR OF CHEMISTRY IN MEDICAL DEPARTMENT UNIVERSITY OF LOUISIANA.

	Intermittent Fever of 12 days' duration, at time of analysis. Male.	Intermittent Fever of 2 weeks duration at time of analysis. Male	Intermittent Fever of 6 week's duration. Male.	Remittent Fever of 16 days' duration at time of analysis. Male.	Remittent Fever of 10 days' duration at time of analysis. Male.	Remittent & Typhoid Fever of 11 days' du- ration at time of an- alysis. Male.	Remittent Fever of 2 week's duration. Male.	Congestive Fever. Male.	Congestive Fever. Male.
1000 Parts of Blood contained:									
Moist Blood Corpuscles	418.73	298.62	207.94	407.76	481.50	292.44	309.93	317.74	348.87
Water of Moist Blood Corpuscles	810.21	220.21	155.86	306.82	328.63	166.83	232.45	238.27	258.80
Organic Matters of Moist Blood Corpuscles.....	100.43	70.41	51.81	100.40	107.32	62.70	73.65	76.00	84.40
Mineral " " " "	3.00	2.96	0.17	1.43	0.49	2.79	3.77	3.40	0.56
Liq.-or Sanguinis.....	586.26	706.38	792.05	592.28	568.49	737.55	690.06	682.25	656.12
Water of Liquor Sanguinis.....	520.21	630.70	721.69	525.47	504.27	664.14	607.12	602.24	574.64
Organic Matters of Liquor Sanguinis.....	58.32	68.40	65.19	61.50	59.21	66.40	67.88	76.70	74.18
Mineral " " " "	4.76	4.73	3.14	2.30	3.55	4.32	3.73	2.38	5.74
Fibrin.....	1.90	2.54	1.92	2.93	1.43	2.38	2.71	0.87	1.45
1000 Parts of Moist Blood Corpuscles contain:									
Water.....	749.99	750.00	749.51	750.00	750.00	750.00	750.22	719.87	752.64
Organic Residue	242.74	239.80	249.15	246.46	238.70	239.29	237.64	239.28	245.23
Mineral Matters	7.25	10.08	0.84	3.51	1.11	10.64	12.13	10.72	11.64
Solid Matters in 1000 parts of Blood	169.49	149.11	122.44	168.70	172.09	139.02	160.41	159.48	166.55
" " Serum.....	70.71	79.18	72.24	72.14	71.63	76.21	87.22	86.05	87.61
Solid Matters in Serum of 1000 parts of Blood.....	64.15	73.16	68.43	64.46	62.78	71.03	80.22	79.13	80.03

The effects of the malarial poison upon the blood, are rendered manifest, by a comparison with the following typical formula of the constitution of the blood.

Physiological limits of the variations of the constituents of the blood, as established by the researches of MM. Bequerel and Rodier :

IN 1000 PARTS OF BLOOD.

The water, may vary.....	from	760.00	to	800.00.
“ specific gravity may vary.....	“	1055.00	to	1063.00
“ globules “ “	“	120.00	to	150.00
“ fibrin “ “	“	2.00	to	3.50
“ solid matters of serum may vary “	“	90.00	to	105.00
“ saline constituents “ “ “	“	4.00	to	10.00

IN 1000 PARTS OF SERUM.

The spec. grav. of serum may vary.....	from	1027.00	to	1032.00.
“ water of serum may vary.....	“	880.00	to	900.00.
“ solid matters “ “	“	100.00	to	120.00.
“ albumen may vary.....	“	70.00	to	90.00.

The following is the typical formula of the constitution of the Blood in health, adopted by MM. Becquerel and Rodier.

ANALYSIS OF 1000 PARTS OF BLOOD.

Specific gravity of blood.....	1060.00
Water.....	781.60
Globules.....	135.00
Albumen.....	70.00
Fibrin.....	2.50
Fatty Matters, Extractive Matters, and free Salts.....	10.00
Phosphates.....	0.50
Iron.....	0.35

ANALYSIS OF 1000 PARTS OF SERUM.

Specific gravity of serum.....	1028.00
Water.....	908.00
Albumen.....	80.00
Extractive Matters and free Salts.....	12.00

The following results are established by this comparison :

1. *In malarial fever the specific gravity of the blood and serum is diminished.*

The specific gravity of the blood ranges in this disease from 1030.5 to 1042.4, and the specific gravity of the serum from 1018. to 1023.6.

In health, on the other hand, the specific gravity of the blood

varies from 1055. to 1063., and the specific gravity of the serum from 1027. to 1032.

2. *In malarial fever the colored blood-corpuscles are greatly diminished.*

In health the dried corpuscles may vary from 120. to 150. parts in the 1000 of blood, and the moist blood-corpuscles from 480. to 600. In malarial fever, on the other hand, the dried colored corpuscles range from 51.98 parts to 107.81; and the moist blood-corpuscles from 207.92 to 323.63.

The careful comparison of these analyses of malarial blood with each other, reveals the fact, that the extent and rapidity of the diminution of the colored corpuscles, corresponds to the severity and duration of the disease. A short but violent attack of congestive or of remittent fever, in its severer forms, will accomplish as great a diminution of the colored blood-corpuscles, as a long attack of intermittent fever, or the prolonged action of the malarial poison.

3. *In malarial fever, the relation between the colored corpuscles and liquor sanguinis is deranged.*

Thus in healthy blood the relative proportions of moist blood-corpuscles in the 1000 parts and liquor sanguinis may vary from 480.00 to 600.00 of the former, and from 520.00 to 400.00 of the latter; whilst in malarial fever, the globules vary from 207.92 to 323.63, and the liquor sanguinis from 792.08 to 676.37.

4. *The Fibrin of Blood is diminished to a marked extent, in some cases of malarial fever, and is altered in its properties and in its relations to the other elements of the blood, and to the blood-vessels.*

5. *The Organic matters of the Liquor Sanguinis, and especially the Albumen, is diminished in malarial fever.*

Thus the solid matters of the serum may vary in health, from 90.00 to 105.00; whilst in malarial fever, they vary from 62.78 to 80.22 parts, in the 1000 parts of blood.

It is chiefly to this latter change, viz., the diminution of the albumen of the blood in malarial fever, that the dropsical effusions are to be traced. The other changes of the blood, without doubt, lead to congestions of the liver and spleen, and to derangements of the capillary circulation and nutrition of the organs and tissues, but a careful examination of those diseases

as anæmia, chorea, and pyæmia, in which the colored blood corpuscles are greatly diminished, will show that this course alone will not induce dropsy. In the watery state of the blood induced by the action of paludal poison, comparatively slight obstructions of the circulation in the spleen and liver might lead to dropsical effusion.

It would appear also, that from the derangement of nutrition caused by the action of the malarial poison upon the blood and nervous system, that certain effete products are not sufficiently and properly eliminated, and then as in the case of urea, may be active in the production of dropsy.

MM. Becquerel and Rodier have demonstrated that in that peculiar condition of the system called marsh cachexia, accompanied by a remarkable decoloration of the skin, and not unfrequently by dropsy, and produced by the long influence of malaria, there is the greatest decrease of both the albumen and the globules; as is well shown by the following analysis of marsh cachexia.

ANALYSIS OF 1000 PARTS OF BLOOD IN MARSH CACHEXIA.

	A man, aged 50, suffering from Marsh Cachexia and General Dropsy.	A man, aged 48, suffering from Marsh Cachexia and General Dropsy.	A man, aged 48, suffering from Marsh Cachexia and General Dropsy.	A man, aged 23, suffering from Marsh Cachexia and General Dropsy.	A man, aged 18, suffering from Marsh Cachexia and General Dropsy.
Specific Gravity.....	1035.40	1040.00	1034.06	1033.85	1040.57
Water.....	869.34	853.75	869.71	875.67	846.31
Moist Globules	268.40	407.48	269.12	224.88	378.88
Solid Matters of Moist Globules..	67.10	101.87	67.28	56.22	87.22
Water of Moist Globules.....	201.30	305.61	201.84	168.66	251.66
Solid Matters of Serum	61.10	41.84	59.88	63.83	62.32
Fibrin.....	2.36	2.54	3.13	4.27	4.15

ANALYSIS OF 1000 PARTS OF SERUM IN MARSH CACHEXIA.

Specific Gravity	1020.37	1016.40	1021.61	1024.15	1023.56
Water	936.40	953.29	930.08	926.75	922.98
Albumen	55.68	37.26	50.20	60.20	63.25
Extractive Matters and Salts	7.92	9.45	13.72	13.05	13.77

The mean composition of the blood in marsh cachexia may be represented thus:

Analysis of 1000 parts of blood (mean composition of in five cases of Marsh Cachexia.)

Specific gravity.....	1036 76.
Water.....	962.38.
Moist globules.....	303 76.
Dried residue of globules.....	75.95.
Water of globules.....	227.82.
Solid matters of serum.....	57.79.
Fibrin.....	3.39.

MEAN COMPOSITION OF 1000 PARTS SERUM.

Specific gravity.....	1021.22.
Water.....	935.10.
Albumen.....	53.32.
Extractive matters and salts.....	11.58.

The following interesting remarks, with reference to the cause of the dropsy, are made by MM. Becquerel and Rodier:

“The dropsy has been attributed to the mechanical obstacle afforded by the enlarged condition of the spleen, so common in these cases. We do not deny the possibility of such a sequence; but it is certain that in many instances, we fail to discover such an amount of splenic enlargement, as would suffice to explain the occurrence of an increasing and general anasarca. In only one of the preceding analysis of the blood, in marsh cachexia, did we notice a marked degree of splenic enlargement; it was, however, insufficient to account for the serous infiltration.” * *

“It is in this disease, therefore, that we meet with the greatest decrease of both the albumen and globules. It may be taken as the type of cachectic dropsy.”

“How, now, are we to account for so great a change in the composition of the blood? We are driven to admit a poisoned condition of this fluid, produced either by the absorption of the marsh miasm, or by repeated attacks of the peculiar fever to which this miasm gives rise.”

The indications in the treatment of dropsy arising from the action of the malarial poison, are:

1st. The removal of the cause, giving rise to the phenomena

of malarial fever, and causing a simultaneous decrease of the globules and albumen, with congestion of the liver and spleen. The patient must be removed from the influence of the paludal poison. In many cases, even after the removal of the patients to elevated, healthy non-miasmatic regions, the attacks of ague will recur again and again with obstinacy.

2d. The prevention of the recurrence of the malarial paroxysms, and the removal, neutralization or elimination of the cause. This indication may be fulfilled by the persistent use of cinchona, in various forms, and especially sulphate of quinia. To prevent the recurrence of the paroxysm, quinine should be given in doses varying from five to ten grains every two or three hours, until from twenty to thirty grains have been taken before the time of the expected paroxysm. In the intermission, and in fact throughout the continuance of the dropsy, the patient should be kept gently under the influence of quinine, from two to four grains being administered three times a day. The iodide of quinia (from one to three grains dissolved in a wineglass of water), has proved highly beneficial in my hands in such cases. As the blood is impoverished, good results are obtained by giving iron in combination with the sulphate of quinia.

3d. The removal of the dropsical effusion. This will best be accomplished by the judicious use of purgatives, diuretics, the hot air bath, and stimulant frictions of every kind, as dry friction, and aromatic, alcoholic and ammoniacal frictions.

Purgatives judiciously used not only cause absorption of the serous effusion, but they also diminish the congestion of the liver and spleen. The blue pill (*pilulæ hydrargyri*), in doses of from five to ten grains, occasionally may be administered with marked benefit. The cream of tartar and juniper berry infusion is one of the best diuretics in such cases.

In the employment of purgatives and diuretics, great care should be exercised not to exhaust the patient, or to weaken and derange the digestive function.

If possible, we should avoid impoverishing the blood further by the use of these remedies.

In many cases, the free perspiration, induced by the hot-air bath, will prove of essential benefit.

4th. The improvement of the blood. Nitrogenized food, especially good beef-steak, if the digestive powers are sufficiently strong, fresh milk, and soft boiled eggs, with a moderate quantity of generous wine, will tend, not only to improve the digestive powers, but also to furnish the materials for healthy, rich blood.

The digestive powers and the nervous system may, in like manner, be invigorated by the use of the vegetable bitters, and especially of gentian, and strychnine. It is best to administer the strychnine in doses of one twentieth of a grain dissolved in water acidulated with citric acid. In many cases it is found, that the dropsical effusion diminishes, just as the blood recovers its normal composition.

Iron is almost universally indicated, by the marked decrease of the blood globules, and on account of its valuable effects in restoring the digestive function. One of the best combinations in such cases, is a pill composed of three grains of precipitated Iron (iron by hydrogen), two grains of sulphate of quinia, and one grain of the extract of rhubarb. The extract of rhubarb is used in proportions just sufficient to overcome the astringent effect of the iron. This pill may be taken three times a day and persevered in for weeks and months. In this combination, we likewise obtain the prophylactic action of sulphate of quinia.

The cure of this form of dropsy is tedious and prolonged in most cases, and the iron and bitter tonics should be used with perseverance.

5. Hygienic Measures. A healthy, well ventilated residence in an elevated non-malarious region, gentle but regular exercise in open air, and the wearing of warm clothing, as flannel next to the skin, are valuable adjuvants to treatment.

Dropsy may also arise from the changes of the blood, induced by insufficient and salt food (as in scurvy), by repeated hæmorrhages (as the hæmorrhoidal flux); by chronic diarrhœa, and by the effects of the absorption of cancerous matter.

3. *Dropsy arising from derangement of the Circulatory Apparatus, attended with venous obstruction and congestions, increased serous effusion from the distended blood vessels, and diminished absorption.* ✓

Under this head may be classed Cardiac dropsy, resulting from

structural alterations of the heart and large blood-vessels; and Hepatic dropsy resulting from certain diseased states of the liver, and sometimes accompanied by enlargement and induration of the spleen.

Cardiac Dropsy, resulting from structural alterations of the heart and large blood-vessels.

In the first stages of heart disease, the constitution is as a general rule unaffected, and apart from certain local phenomena and physical signs, and slight dyspnœa and palpitation, the general health appears good.

Owing to the continuous disturbance however slight, at first, of the circulation and respiration, the dyspnœa and palpitation increase, the nutrition of the body is impaired, the general health progressively deteriorates and a slight amount of œdema appears in the lower extremities.

As the disease progresses there is not only a progressive aggravation of the affection of the heart, but also, as a direct effect of the disturbances of the respiration and circulation, a great increase of dyspnœa and dropsy.

In the last stage of cardiac disease in which the patient is doomed to speedy death, the countenance assumes a yellowish white, cachectic appearance, and the dropsy in many cases becomes general.

Although cardiac dropsies appear in most cases to be preceded immediately by venous congestion, we should not refer the dropsical effusion to this cause alone, for it appears to be referable, to a certain extent at least, to the progressive alteration of the blood and derangement of nutrition caused by the disturbance in respiration and circulation. The blood is not properly oxygenated, the carbonic acid is not properly eliminated, and the organs and tissues are not only supplied by an imperfectly elaborated blood, and that too in an irregular manner, but the office of important organs as the kidneys and liver is in turn deranged.

This symptom of cardiac disease is usually, therefore, of late occurrence, making its appearance almost invariably about the ankles and feet, as slight œdema, and by slow degrees ascending towards the trunk, and ultimately involving the upper extremities

and face. The anasarca commencing in the feet and gradually proceeding upwards, precedes the ascites, and even when the belly becomes swollen, the swelling of the legs is large, out of all proportion to the ascites.

According to Dr. Walshe, dropsy, sequential to heart disease, occurs in the following situations, enumerated in the order of frequency with which they severally suffer; the subcutaneous cellular tissue; the pulmonary parenchyma; the peritoneal and pleural sacs; the pericardium; the cerebral and spinal arachnoid and sub-arachnoid spaces; the tunica vaginalis; the joints, and the eyeball, especially the aqueous chambers. But in the last three situations, dropsy is excessively rare.

Dr. Latham has justly observed that the first appearance of the dropsy, marks an eventful period in the progress of cardiac disease. It indicates that a new law takes effect in the circulation, and gains the mastery of the law of health, which has hitherto been able to retain the watery elements of the blood-vessels, now the serum escapes and accumulates in the areolar tissue of the body.

The forms of valvular disease, as laid down by pathologists in the order of the frequency in which dropsy is met with, are: (1), Considerable contraction of the left auriculo-ventricular orifice; (2), Dilatation of the auriculo-ventricular orifice, with hypertrophy and dilatation of the right ventricle; (3), A state of the mitral valve and orifice permitting free regurgitation; (4), Considerable contraction of the aortic orifice. As a general rule, cardiac dropsy supervenes earlier, the earlier that venous congestion ensues. The establishment of a varicose condition of the blood-vessels in the air-vesicles of the lungs, essentially aggravates the dyspnoea. When the dropsy is carried to great amount, erythema, erysipelas, and even sloughing are prone to occur; the skin cracks, the serous fluid oozes more or less copiously.

Dr. Walter Hayle Walshe, in his valuable "*Practical Treatise on the Diseases of the Heart and Great Vessels*," gives the following important observations upon the nature and causes of dropsy and serous flux of cardiac origin:

(a). *Systemic Form.*

Dilatation was formerly regarded as the condition of the heart mainly inducing the important class of dropsical symptoms. This opinion, discountenanced by M. Brouilland, who sought to establish valvular obstruction as their sole efficient cause, was restored to favor by Hope and M. Andral—the former of whom indeed went the length of teaching that pure hypertrophy, also, was capable of generating dropsy. Of late, Dr. Blakiston has brought together a body of evidence calculated to show that the systemic vessels do not become loaded in cases of dilatation, unless there be co-existent tricuspid regurgitation. Still more recently Dr. H. Douglas has defended the original thesis of our forefathers. It becomes necessary for me here to express an opinion on this "vexed question" of the mechanism of cardiac dropsy; let me commence by throwing into a series of propositions such inferences as flow directly from facts that have fallen under my own notice.

1. Mitral regurgitation or obstruction, or aortic regurgitation or obstruction, may severally exist, and, for a lengthened period, without systemic dropsy supervening.
2. Mitral regurgitation and aortic regurgitation may co-exist for years, and yet no dropsy occur.
3. Both of these propositions hold good, whether notable hypertrophy do, or do not, exist behind the obstruction.
4. Simple hypertrophy of the left ventricle may reach the highest point without systemic congestive effects of kind arising. Dr. Hope, as is well known, maintained the reverse, holding that pure hypertrophy, if prot-acted, will produce general dropsy; but he gives no cases demonstrating the facts, and the motives of his belief are, as far as he shows, totally speculative. And *a priori* views are not so completely in his favor as he appears to imagine; when he talks of the "increased force of circulation surmounting the natural tonic power of the capillaries," he forgets that that very tonic power may have increased *pari passu* with, and in consequence of, the growth of the hypertrophy. The question is one of observation; and I have stated what I have actually seen in persons who had not been reduced by treatment to a state of anemia.
5. Dilated hypertrophy, even of the left ventricle may last for years without any such effect, provided the dilation be not in notable excess.
6. The heart may be in a state of advanced fatty metamorphosis, the pulse feeble and infrequent, the encephalic and respiratory functions exhibit the singular perversions attending a high degree of the disease, the entire organism betray functional languor and inactivity, and yet even the prætibial integuments fail to pit in the least under pressure.
7. Or the heart may be soft and flaccid, and the pulse persistent, frequent, feeble, and irregular in force and rhythm, and yet no systemic congestions occur.
8. The natural relationship of width of the arterial orifices, and also of the auriculo-ventricular orifices, may be materially perverted, without the least systemic dropsy arising, until the closing days of life. This is seen, for instance, in cyanotic cases where the aorta and pulmonary artery are transposed in origin, the relationship of the great veins to the two sides being normal. Similar evidence is often afforded by cases of aneurism of the arch of the aorta with an orifice more or less widely dilated, so as to exceed that of the pulmonary to variable amounts.
9. Tricuspid regurgitation where the right ventricle is in a state of dilated hypertrophy, as shown during life, by swollen and pulsatile jugular veins, which fill from below and as shown after death by actual examination, does, not necessarily produce dropsy. Besides if tricuspid regurgitation sufficed, unassisted, on mechanical principles to produce systemic dropsy, why should not constriction of the pulmonary orifice, so frequent in cyanosis, habitually engender it.

These propositions are, I believe, incontrovertible; they are the mere general expression of facts which are perpetually occurring. I cannot, then, see how the conclusion is to be avoided, that something beyond and in addition to any one, or any group, of the cardiac conditions referred to, is required in order, as matter of necessity, to entail the occurrence of dropsy. I can scarcely suppose the unwarranted assumption that, were life sufficiently prolonged, these conditions would of themselves suffice for the purpose, would be seriously urged in rejoinder. And again, the existence of some acting cause beyond, and independent of, the heart, is farther shown by the facts: that there is no direct relationship between the amount of heart disease and of dropsy; that dropsy comes on suddenly sometimes from extraneous causes, the state of the heart remaining, as far as ascertainable, in precisely its previous condition; and that dropsy diminishes and increases, comes and goes, either spontaneously or through the influence of treatment, while the organic changes in the heart remain permanent and unmodified.

We must not, however, run into the opposite and equally erroneous extreme of wholly ignoring the direct influence of organic changes of the heart and its orifices. Two cardiac affections are, as matter of experience, frequently associated with systemic dropsy—namely, dilatation and tricuspid regurgitation. And it is certainly so rare for either of these states to exist for any length of time without the supervention of such dropsy, that any hypothesis, explanatory of cardiac dropsy, must look to these states as forming important links in the chain of causes.

A share in the direct mechanism of systemic dropsy being thus conceded to structural change in the heart, the question next arises what is the nature of the influence, independent of that organ, which completes the causation. Local conditions in the heart, we admit, establish a difficulty in the systemic circulation; what influence actually and directly leads to the dropsical exosmosis?

This influence seems a compound of conditions, favorable to transudation of the serosity of the blood, in that fluid itself, in the walls of the capillaries and venous radicles, and in the receiving tissues.

First, as concerns the blood, the influence of an impoverished state of that fluid is too well known to be for a moment contestible. Experiments on animals prove that if the veins be more or less loaded with water, they yield this in the form of dropsical effusion. The œdema, and sometimes extensive anasarca, of spanæmia; the slight œdema attending the hypnosis of protracted convalescence from various acute diseases; the various dropsies of uræmia—are all illustrations in point. Obviously morbid states of the blood, when of the proper kind of themselves alone suffice for the production of dropsy; look at the sudden anasarca of acute Bright's disease, or of an acute recrudescence in the chronic affection, while the heart, liver and lungs, may be texturally sound. *Secondly*, it is readily conceivable that the variable density of texture of the walls of the vessels may promote or restrain the process of filtration. *Thirdly*, cases occasionally present themselves, in which dropsy supervening from diseased heart, fails to affect portions of the body, noted, under ordinary circumstances, as the earliest and readiest sufferers—for instance the lower extremities. I have observed this where the legs had been the seat of erysipelas and subcutaneous inflammation prior to the occurrence of the cardiac dropsy: the chronic anatomical changes in the cellular tissue in such a case possibly acts as a barrier to its reception of serosity from the vessels.

It may, no doubt, be argued *a priori* that dilatation of the heart, occurring as a primitive disease through simple weakness, or following actual structural alteration of the texture of the organ, will occasionally prove the efficient cause of dropsy, even admitting the necessity of blood change just contended for. It may be urged that when the heart is so affected, the necessary *vis a tergo* in the circulation is wanting, and capillary stagnation must ensue—and that this very stagnation, becoming habitual, may modify the qualities of the blood, and impair the nutrition of the walls of the vessels through the strain they suffer. But plausible though this argument be, I believe, as matter of experience, that the necessary change in the composition of the blood is meanwhile really worked out by other and more effective agencies.

Long since, Lower showed that local dropsy might be produced by ligature of veins; and the occurrence of serous effusion from local obstruction of vessels of that class is clinically well known. But here are instances of sudden and limited obstruction; they are evidently not logically comparable with cases of slow and centric obstruction. And even where the difficulty in the way of the returning blood is purely local, it does not necessarily follow that transudation shall occur from the communicating venous radicles, although the evidences of changed condition of these vessels be structurally obvious. Thus in case of aortic aneurism, pressing one or both innominate veins, the capillaries of the base of the neck may dilate in such manner as to produce notable general swelling at the spot, yet not a particle of œdema be discernible."

(b) *Visceral and Intra-Serous Form.*

Pulmonary œdema is chiefly connected with disease, constrictive or regurgitant, of the orifice, sometimes with dilatation of the left ventricle, very rarely with hypertrophy of the right. *Ascites* arises especially from general dilatation of the heart and tricuspid regurgitation; and these are the conditions mainly observed, as antecedents to all the other varieties of dropsy enumerated."

B.—Cardiac Flux.

(a) The intestines become the seat of serous flux in some rare instances of certain forms of heart disease. Watery diarrhœa thus induced may be wholly spontaneous, or the original excitant of the discharge may have been some hydrogogue purgative, the influence of which holds on. * * *

(b) I believe that in some of those cases, where vomiting forms so obstinate a symptom of chronic heart-disease, the immediate cause of the nausea is the presence of an irritating watery secretion from the gastric surface. It is never very copious.

(c) Watery flux from the kidneys, though on the whole not very rare, is uncertain in its occurrence, doubtful in its mechanism, and cannot be said to belong to any particular cardiac affection. For my own part I have seen passing attacks of hydruria more frequently in connection with different forms of dynamic disturbance than with any specific organic disease. * * * Here the rationale is the same as in the case of hysterical diuresis; and so long as the immediate mechanism of the latter continues in its present obcurity, we must remain in ignorance of that of the former.

Albuminuria occurs every now and then in cases of cardiac disease, especially of dilatation and tricuspid insufficiency, the tendency of which is to congest the viscera. The cortical and tubular substances remain texturally sound. The character of this form of albuminous flux are as follows: it is a passing phenomenon, sometimes disappearing spontaneously, sometimes yielding to treatment; the albumen is always small in amount; the specific gravity of the fluid never falls very low, its color remains unaffected and its smell wholly free from that whey-like odor to which I long since drew attention as notably significant of Bright's disease. A few casts of the latter occasionally appear."

The researches of pathological chemists have shown that in the early stage of organic heart disease, marked merely by the local

phenomena, a few physical signs, and a slight amount of dyspnoea and palpitation, the proportion of water increases, and the specific gravity of the blood consequently diminishes; the globules decrease somewhat, their mean being represented by 125; the fibrin remains unchanged; and lastly, the albumen contained in 1000 parts of serum undergoes a trifling diminution, proportionate to that of the globules, its mean being represented by the figures 71.05.

As the disease progresses, the physical signs become more clearly defined, the local symptoms more marked, and the general health begins to fail, and the constitution to evince signs of deterioration, and the face becomes anæmic and the lower extremities slightly œdematous, the specific gravity of the blood and serum becomes lower, the proportion of water increases, the globules undergo still further diminution, their mean being represented by 117; the fibrin augments in many cases; and lastly, the albumen decreases like the globules, its mean proportion in 1000 parts of serum being 66.21. The dropsy is indicated at its onset by a decrease of the albumen of the blood.

When the disease has reached an advanced stage, with severe palpitation and dyspnoea, considerable serous infiltration, invades the pleural and peritoneal cavities as well as the subcutaneous cellular tissue. Under these circumstances the blood for the most part, undergoes great modifications, of which the following is a general outline.

The amount of water is greatly increased, whilst the specific gravity and solid matters of both the blood and serum are proportionally diminished. The blood globules and the albumen, and especially the latter element, undergo very considerable decrease. The decrease of the albumen of the serum is consecutive to the dropsy, only taking place when the latter becomes well marked. The decrease of the albumen has been referred to the impoverishment which the blood undergoes by reason of the loss of serum constituting the dropsy. Becquerel and Rodier, very justly concluded from their analysis of the blood in cardiac dropsy, that, when once the blood has become impoverished by the occurrence

of mechanical dropsy, it is probable that infiltration proceeds with increased rapidity and that the serum, even more watery than heretofore, escapes with greater facility under the influence of two causes acting in the same direction, viz., the impediment to the circulation, and the diminution of the solid matters of the serum.

The following cases of cardiac dropsy, have been selected from those observed in our wards in the Charity Hospital, by the students of the Medical Department of the University of Louisiana.:

CASE XVII.—Cardiac Dropsy of Heart: Hypertrophy; First stages of Cirrhosis of Liver.

In this case the students were enabled to watch the gradual progress of the disease to a fatal issue, and to observe the gradual aggravation of the heart symptoms and the origin and increase of the general anasarca.

James Duncan, age 30 years; height five feet, nine inches; weight 135 pounds; dark hair, blue eyes, dark complexion; native of Ireland; six years a seaman and fifteen years a boatman on the Mississippi river. Twelve years ago had several attacks of chills and fever; again six years ago, and finally during the fall of 1868.

Eighteen months ago, the patient says that he was working in the hot sun, and drank large quantities of cold ice water, when he was attacked suddenly with an affection of the heart, which lasted several days; six months afterwards was attacked in a similar manner and spit up blood.

Habits intemperate at times; previous to the late civil war drank regularly but not to intoxication; entered the Southern service and drank but little during the war. Since the war used alcoholic stimulants freely to relieve the pain in the region of the heart. At first the stimulants gave comfort and he consumed large quantities, even to intoxication. Shortly, however, before entering the hospital, the stimulants appeared to aggravate the disease and the patient gave up steady drink. Suffered severely the week before entering the hospital.

Admitted into the Charity Hospital, ward 18, bed 267; March 9th, 1869. At this time the patient was suffering with great pain in the region of the heart, soreness and pain in the epigastric region, and along the abdomen in the region of the liver, extending on either side to the hypochondriac regions. Bowels irregular and constipated. Appetite pretty good, patient indisposed to exertion, but not confined to bed.

Treatment, consists in the administration, three times a day, of ten drops of Tincture of Digitalis and the same quantity of the Tincture of the Sesqui Chloride of Iron.

April 5th, 1869.—Patient takes gentle exercise during the day, walking around the ward and hall; but suffers debility from muscular exertion; came under my treatment at this time, and the following results of physical exploration were then recorded:

Auscultation and percussion revealed enlargement and dilatation of the heart; the dull space over the region of the heart being at least twice as large as in health. The beat of the heart is lower down and more to the right than normal; and the impulse as communicated to the hand placed upon the wall of the thorax, is different from that of health, giving the impression of the impulse of a large soft quivering bag, against the thoracic walls. The space of the walls of the thorax against which the apex of the heart is propelled appears to be at least three times the ordinary size of health. The first sound of the heart is entirely altered, being converted into a loud blowing sound, much more distinct upon the left side, and over the region of the left auriculo-ventricular valve, near the junction of the cartilage of the fourth left rib with the sternum. This loud cardiac murmur was heard at the apex of the heart, and along its body, becoming most distinct over the region of the auriculo-ventricular valves, in the middle of the sternum, in a line with the articulation of the cartilages of the fourth ribs with the sternum, and gradually diminishing towards the

base, and becoming quite indistinct over the position of the semilunar valves of the aorta and pulmonary arteries, near the junction of the third ribs with the sternum. At the apex of the heart the second sound was heard with difficulty. At the base of the heart or rather about the region of the arch of the aorta and the arch of the pulmonary artery, above the line joining the cartilages of the third ribs with the sternum, the first sound was heard with difficulty, or rather it became indistinct. The second sound of the heart was loud, sharp and metallic, with a slight roughness prolonged in the direction of the arch of the aorta. Some dullness upon percussion over region of lungs. No physical signs of either tuberculosis or pneumonia, or of pleurisy were detected. The congestion of the lungs was referred to mitral regurgitation. The veins of the neck (external jugulars) gave a distinct venous pulse.

The liver was enlarged, and tender to the touch. Slight effusion into the abdominal cavity and oedema of face and extremities, especially marked in the feet and ankles. Complexion sallow, wax-like, with slightly jaundiced hue. The yellow jaundiced hue was especially distinct in the eyes. Urine scanty, high colored, high specific gravity, and loaded with biliary acids. The urine contained no albumen or urinary casts.

Bowels irregular, most generally constipated. Appetite poor; tongue coated with whitish colored fur. Pulse feeble, 80 per minute; respiration 22; temperature under axilla in the morning 99° F. Sp. gr. of urine 1023.

The diagnosis established by this examination was

Enlargement and Dilatation of Heart.

Regurgitation of Blood from Auriculo-Ventricular openings.

Roughness in the Aorta, beyond the Semilunar Valves.

Congestion of the Lungs and Venous Pulse, in consequence of Regurgitation of Blood through both Left and Right Auriculo-Ventricular openings.

Absence of Active Inflammation or Tubercles from Lungs.

Cirrhosis of the Liver in the early stage in which the organ is increased in size.

The patient was treated with small doses of Calomel and Sulphate of Quinia, with occasional saline purgatives, with no perceptible benefit. The heart trouble increased, the spitting of blood became quite common, and the oedema of the extremities and dropsical effusion steadily increased. Tincture of Wild Jessamine (*Gelsemium Sempervirens*) was also effectually tried, as well as Tincture of Digitalis, but without any perceptible beneficial effect, and in fact the latter remedy appeared to do harm rather than good, by its depressing effects upon the action of the heart, and its debilitating effects upon the nervous system.

Nitro-Muriatic Acid administered internally, and also in the form of foot-bath, appeared to afford more relief.

The failure of strength appeared to be quite gradual, and the patient finally became much swollen, the effusion in the abdominal cavity increased, the venous congestion became more marked, with distinct pulsations of the jugular veins and blue lips; the difficulty of respiration became so great and the action of the heart so irregular, that the patient could not rest at night and was compelled to sit up in bed. The forces failed progressively and he died on the 15th of June. The following is a tabular statement of the more important symptoms:

DAY OF MONTH.	HOUR OF DAY.	PULSE.	RESPIRATION.	Temperature of Axilla.	STATE OF INTELLECT, TONGUE, BOWELS, APPETITE AND COMPLEXION.	CHARACTER OF URINE.	REMARKS UPON GENERAL SYMPTOMS.
April 69 A. M.	92	22	22	99°	Intellect clear; bowels constipated; no appetite; dark and jaundiced complexion.	Scanty, high color. Sp. gr. 1025.	Patient complained of great soreness and tenderness in abdomen, especially in region of liver.
.. 79 A. M.	92	22	22	99°	Condition same.	Same character. Sp. g. 1025.	Still complains of soreness; vomiting, no appetite, some fever in the evening.
.. 89 A. M.	98	26	26	100°	White coating on tongue; action on bowels.	Scant, high color. Sp. gr. 1025.	Patient says that he feels better, with less abdominal pain than yesterday.
.. 99 A. M.	88	22	22	99°	General symptoms same; feels better.	Sp. gr. 1025.	A little more comfortable.
.. 109 A. M.	86	22	22	98°-5	Appetite better. Tongue coated.	Amount of urine f. oz. xv. Sp. gr. 1025.	Feels a great deal better with almost total absence of pain in abdomen and epigastric regions.
.. 119 A. M.	86	22	22	99°	Improving.	F. oz. xxvii. Sp. gr. 1015.	Continues the same. Purgatives administered.
.. 129 A. M.	87	22	22	99°	Bowels constipated.	F. oz. xxx. Sp. gr. 1015.	Bowels opened by Comp. Cathartic Pills.
.. 139 A. M.	87	22	22	99°	Bowels opened.	F. oz. xxx. Sp. gr. 1015.	Not so well as yesterday. Breathing oppressed.
.. 149 A. M.	88	21	21	99°	Same condition.	F. oz. xxvi. Sp. gr. 1015.	Has been spitting blood for several days. At times great oppression in breathing.
June 89 A. M.				100°-5	Jaundice; constipation of bowels. Tongue coated.	F. oz. xvi. Sp. gr. 1030.	Nausea and spitting of blood; soreness over region of liver. Ascites. Anus tica of extremities greatly increased. Cannot lie down in bed. Great oppression of breathing.
.. 99 A. M.	110	26	26	99°	Bowels constipated. Jaundice. White of eyes yellow.	Only f. oz. iv collected; high colored and loaded with bile.	Purple blood. Great congestion of veins of neck. Purple lips and fingers. Great oppression in respiration. Exhausted and feeble. Loud, distinct bellows sound taking the place of the first sound of the heart. Koughness in second sound.
.. 109 A. M.	112	26	26	100°-5	Two small stools.	Urine high colored, scanty and loaded with bile. No albumen or casts.	Great exhaustion and dyspnea.
.. 119 A. M.	110	20	20	100°-5	Tongue coated; patient feeble and depressed; pulse weak and thready.	Urine scant, high colored and loaded with bile.	

The forces progressively failed, although the patient was able to converse when propped up in bed, almost up to the last moment of life, and died suddenly at five A. M., June 15th.

The *Post Mortem Examination* was performed six hours after death.

Exterior.—Surface of a yellow jaundiced hue and with dark mottling of blood in the dependent portions. Abdomen and lower extremities considerably swollen from serous effusion.

When the thorax was opened, the lungs did not collapse to any marked extent. The lungs were greatly congested with blood. The marks of the hemorrhages were visible in various portions of the lungs. The effusions of blood had transformed the pulmonary tissue into a dark, liver-like, hard substance.

The lungs contained no tubercles, were not softened, and gave no evidence of pulmonic or pleuritic inflammation.

Heart.—The pericardium was adherent to the sternum upon the anterior aspect.

The heart as it lay in its natural position, presented an enormous size, and was distended in all its cavities with black fluid blood.

The heart contained at least one pint of black fluid blood, and it appeared as if the patient had died from the want of power in the walls of the heart to contract upon the blood distending its cavities.

The left auricle and ventricle were enormously dilated; the right auricle and ventricle were also dilated, but not to so great an extent. There was an appearance of partial fatty degeneration in some portions of the heart, and the muscular structures generally of the heart were softer than normal.

The auriculo-ventricular, and aortic and pulmonary valves, were not thickened nor altered in structure, with the exception of some insufficiency of the mitral valve. The auriculo-ventricular openings, however, were so much altered, in being greatly increased in size, that the valves were insufficient.

The length of the heart after being placed in alcohol, and after considerable contraction, was six and a half inches, the breadth five inches, and the circumference eleven and a half inches.

The walls of the aorta and pulmonary artery, beyond the semi-lunar valves, were roughened by calcareous and osseous deposits. These deposits accounted for the rough sound succeeding or rather flowing from the first sound.

Liver, cirrhotic enlarged, with some fatty degeneration. Surface of liver presented a yellowish bronzed mottled color.

Microscopical examination, revealed increase of fibrous tissue, and oil globules, together with numerous fragments of hamatin. The masses of hamatin scattered through the textures of the liver, gave the dark mottled bronzed appearance, and were most probably deposited during the previous attacks of malarial fever.

Kidneys, congested, but normal in structure.

In the preceding case, the dilatation of the heart appeared to have been due in a manner to the same causes which induced softening and fatty degeneration of the muscular fibres of this organ and of the cells of the liver.

In the following case the symptoms of heart disease, although severe, have been relieved partially or mitigated by treatment.

CASE XVIII.—Daniel Dunn, aged 46 years; height five feet six inches; weight 176 lbs. in health; large well developed chest and limbs, large head and intelligent countenance; dark hair, dark blue eyes and dark complexion; native of Ireland; occupation fireman on steamship. Has no hereditary tendencies, and has always led an active life; served in the Southern army during the recent war, and was wounded five times; left leg fractured by Minie ball; flesh wound of posterior portion of upper third of thigh, flesh wound of right hip, another wound on the instep, and still another on the anterior part of the thigh, two inches below Poupart's ligament. Had repeated attacks of intermittent fever, during 1857, '58, and '59, and was affected with sun-stroke on the 4th of July, 1863.

During the summer of 1868, suffered with pain in the region of his heart, attended with anasarca, pain in the head, loss of muscular power, and difficulty of breathing. Admitted into Charity Hospital, October 19th, 1868. At the time of his admission was suffering with anasarca, cephalalgia, muscular debility, and irregular and imperfect action of the heart.

The treatment consisted of tonics, nutrition, diet, and the free use of diuretics. Under this treatment his general condition improved.

At the time this patient came under my treatment in March, 1869, his complexion was sallow, anæmic, and of a yellow, wax-like hue. Temperature normal; pulse 76; respiration 20. Lower extremities œdematous. Some œdema about face and upper extremities. Urinary secretion abundant. Patient complains of pain in his head, and of weakness upon any unusual exertion. Action of heart abnormal, a murmur being heard with the first sound, having its maximum intensity at the position of cardiac impulse. The anasarca has been

greatly reduced by the persistent use of diuretics and especially by the cream of tartar and juniper berry infusion and mixture. Tincture of bark, and preparations of iron, and especially the tincture of the sesquichloride, appear to have been most beneficial in maintaining the strength of the patient. The following observations give a correct view of some of the leading symptoms in this case. April 7th, 9 A. M., respiration 20; temperature of axilla 98°; tongue clean, bowels regular, complexion sallow, anæmic, urine abundant, œdema of extremities and of face; spirits good, assists in nursing the patients. April 8th, 9 A. M., pulse 86; respiration 22; temperature of axilla 98°5, sp. gr. of urine 1020. April 9th, pulse 92, respiration 21, temperature of axilla 99°5; urine abundant, one hundred and forty ounces (140 ozs.) being passed during the last twenty-four hours; sp. gr. 1010. The urine was carefully tested upon this occasion, as it had been upon others, for grape sugar and albumen, but no traces of these substances were detected. April 10th, 9 A. M., pulse 90; respiration 21; temperature of axilla 99°; urine excreted during twenty-four hours 100 f. ozs., sp. gr. 1010; no grape sugar nor albumen. April 11th, 9 A. M., pulse 88; respiration 22; temperature of axilla 98°5; amount of urine 110 f. ozs.; sp. gr. 1010. April 12th, 9 A. M., pulse 88; respiration 22; temperature of axilla 98°5; amount of urine 110 f. ozs.; sp. gr. 1010. April 13th, 9 A. M., pulse 88; respiration 20; temperature of axilla 98°5; amount of urine 110 f. ozs.; sp. gr. 1010. April 14th; respiration 20; temperature of axilla 98°5; amount of urine 110 f. ozs.; sp. gr. 1010.

At the time of the entrance of this patient into the hospital, the anasarca was very great and troublesome, but it yielded and was held in abeyance by the action of diuretics.

Neither albumen nor grape sugar were detected in the urine.

The dropsy in this case appeared to be the result of the cardiac disease, and the anæmic state of the blood.

CASE XIX.—*Dilatation of Heart; General Anasarca; Death.*

Hannah Clark, colored woman; age 40. Entered ward 34, bed 517, Charity Hospital, September 19th, 1869. Patient lies on her back utterly prostrated, with apparent complete muscular and nervous exhaustion. Universal anasarca; abdomen, and extremities, and head swollen from dropsical effusion. Action of heart very feeble; impulse of heart can scarcely be felt. Great dullness upon percussion over region of heart; and the area of dullness at least four times as great as that usual in the healthy thorax. Dullness upon percussion over both lungs; dullness most marked over the lower dependent portions of lungs. The dullness is so great over the lower portions of the thorax as to indicate pleuritic effusion. Upon auscultation, the sounds of the heart are indistinct and feeble. Diagnosis: dilatation of both sides of the heart, and general dropsy as the result of cardiac disease.

The patient is evidently in extremis. Oppression of breathing so great that the patient is unable to articulate with any force, and it is difficult to understand her broken sentences. Patient died September 21st, two days after her admission into the ward.

Autopsy twelve hours after Death.

Exterior.—Trunk, abdomen and extremities greatly swollen. Areola tissue everywhere infiltrated with serous fluid. On opening the cavity of the thorax, a large amount of serous fluid filled the pleura, and occupied a large portion of the space usually filled by the lungs. The right lung was compressed into a mass not larger than a man's hand, and presented a hepatic appearance, and apparently had lost the power of dilatation. The left lung was also compressed into a comparatively small space, but was readily dilatable when removed from the pleural cavity. The heart was enormously enlarged, measuring seven and three-tenths inches in length, and fifteen and a half inches in circumference, as it lay in the thorax with the auricles and ventricles immensely distended with black blood. The blood was partially coagulated, and the coagula were easily divisible into two portions, the one ordinary blood and formed post-mortem, and the other light yellow fibrinous, and formed ante-mortem. The fibrinous clots were to a great extent, stripped of colored corpuscles, and adhered closely to the valves and chordæ tendinæ. The walls of the heart were thin and not hypertrophied.

The edges of the mitral valve were thickened and from the deposits of calcareous or osseous matter; or rather from the deposit of fibrin in some preceding attack of rheumatic endocarditis, which had been gradually transformed into an inorganic hard mass.

Spleen, liver and kidneys healthy in appearance. Intestinal canal also normal in appearance. Some small loose fibrinous clots floated in the serous fluid of the pleura and peritoneum; and a small patch of fibrinous exudation was observed on the surface of the descending colon, in the lumbar region.

The origin of the cardiac disease and the supervening dropsy appears to have been the deposit of fibrinous matter upon the auriculo ventricular valves in some former attack of rheumatism, thus causing auriculo-ventricular regurgitation.

CASE XX.—Dilatation of Cavities of Heart ; Universal Dropsy ; Death.

John Wilson ; negro man ; aged 57 ; stout, well-built man ; native of Virginia. Admitted to Charity Hospital, ward No. 32, September 2d, 1868.

Patient says that he has always enjoyed good health up to December, 1868, when he was seized suddenly with palpitation of heart, and great difficulty of breathing. Has been admitted several times into the Charity Hospital, since this date, suffering with palpitation of the heart and dyspnoea. As soon as some slight improvement took place, under rest and diuretics and tonics, the patient would ask to be discharged.

At the present time, September 2d, the patient suffers with great dyspnoea, pain in the region of the heart, dry hacking cough, general anasarca, which however is less in the right arm and hand.

The apex beat of the heart is just below the nipple ; space of percussion dullness over region of the heart greatly enlarged. First sound of heart prolonged and attended with a distinct regurgitant murmur. Second sound normal. Diagnosis.—Dilatation of both sides of the heart, with auriculo-ventricular regurgitation. General dropsy, and dyspnoea consequent upon heart disease. No albumen or bile was found in the urine. Diuretics and tonics were administered, with only temporary benefit, however, as the anasarca increased as well as the oppression of breathing ; the lower extremities became immensely distended ; the patient was unable to lie down and finally died twelve days after his admission, on the 14th of September.

The post mortem examination revealed a similar condition to that described in the preceding case No. XIX. Universal anasarca—liver and kidneys and intestinal canal healthy. Heart greatly dilated and distended with black blood. The dimensions of the organ were fully equal to those given in the preceding case. The mitral valve was thickened with osseous deposit.

The auricles and ventricles were greatly dilated, and the auricular ventricular opening so much enlarged as to render the valves insufficient, and to allow regurgitation of the blood, during the contraction of the ventricles.

The following case illustrates the fact that we may have decided evidence of insufficiency of the aortic valves, without dropsical effusion.

CASE XXI.—Articular Rheumatism, with derangement of Second Sound of Heart.

Wm. Rogers ; seaman ; aged 21 years ; stout, well formed man ; admitted into Charity Hospital, ward No. 11, bed 154, January 20th, 1870, suffering with chronic rheumatism, affecting chiefly the upper extremities. Patient states that seven years previous to the present attack, he was confined to his bed six or eight weeks by rheumatism, which affected chiefly the upper extremities. The attack was brought on by exposure. Two years afterwards he had a second attack which was confined to the parts and joints of the lower extremities ; and at this time he suffered severe pain in the left side, which his attending physician pronounced to be due to pleuritis, with palpitation of the heart. The present attack came on in November, 1869, with pain in the wrists, joints and hands, and finally affected the shoulder joints. On percussion the heart appears to be hypertrophied ; and upon auscultation the second sound is entirely altered, being converted into a prolonged, blowing sound, heard loudest at the base of the heart over the aortic and pulmonary valves, and is transmitted up as high as the point of bifurcation of the common carotid artery. The sound is loud and distinct. The patient was placed on a mixture of Wine of Colchicum, and Solution of Iodide of Potassium, so compounded that eight drops of the Wine of Colchicum and five grains of the Iodide of Potassium should be administered three times a day. Iodine was also used locally and the parts covered with cotton and oil silk. Under this treatment the patient steadily improved, and was discharged from the ward on the 26th of February, 1870.

It is worthy of note in this connection, that the most extensive

aneurism may exist, without the production of any dropsical effusion. If the aneurism presses upon one or more of the large veins, it may, by its mere mechanical pressure, cause such a congestion as to lead to œdema of those parts from whence the obstructed vein should remove the blood.

It is also worthy of note that in the cases of aneurism, which I have examined in the Charity Hospital, there was most generally more or less fatty degeneration of the arterial coats, in various portions of the circulatory system.

CASE XXII. *Aneurism of Internal Iliac.*

Thus in the case of the large aneurism of the internal iliac, which filled the entire pelvic fossa on the left side, measuring eleven inches in the longest diameter, and six-and-a-half inches in the short diameter; the heart is partially degenerated into fat and the entire aorta is dilated, with thickened, degenerated, roughened walls.

CASE XXIII.—*Aneurism of Descending Aorta, Absence of Œdema—Great Emaciation—Death.*

The body of this man, aged sixty, after death, presented no marks of dropsical effusion, and was greatly emaciated. The descending aorta was dilated into a large aneurism having an hour-glass contraction in the middle. The long diameter of the aneurismal tumor was six and one-half inches and the transverse diameter four inches. The vertebral column had been eroded and absorbed upon its anterior surface, by the pressure of the tumor, and adhesions had formed between the walls of the aneurism and the diaphragm. No dropsical effusion was discovered in the areolar tissue and serous cavities after death, and none had been observed during his residence during the past three months.

CASE XXIV.—*Aneurism of Ascending Aorta ; sudden rupture of Aneurismal Sack within the Pericardium ; Hæmorrhage—Death. Absence of dropsical effusion.*

A young woman entered the Charity Hospital, complaining of pain in the region of the heart; the general health appeared to

be good—complexion clear and limbs round and firm. This patient died suddenly a short time after entering the hospital. When the cavity of the thorax was opened, the pericardium was found to be filled with blood; the amount of which was about one pint. No blood was effused exterior to the pericardium, and there were no marks of dropsical effusion in any of the serous cavities, nor of œdema in any of the extremities. Death in this case appeared to have resulted from the sudden compression of the heart, by the blood effused into the pericardium, rather than from the amount of blood lost. As is well known that portion of the aorta which arises from the left ventricle, behind the sternum, opposite the third intercostal space, and passes from left to right, the ascending portion of the arch, coming to the right of the sternum, between the cartilages of the second and third ribs, is within the pericardial sac. The ascending aorta together with that portion of the arch from which the carotid, innominate and subclavian arteries are given off, was enlarged or dilated to more than twice the normal diameter, and a diverticulum or pouch from the aneurismal dilatation was sent off, downwards from the arch of the aorta, and rested against the auricle. The rupture took place at the most dependent portion of this division or diverticulum from the dilated aorta, just where it rested upon the auricle.

In the case of aneurism of the femoral artery operated on by Dr. Warren Stone Jr., and which terminated fatally from hæmorrhage and pyæmia, I found the artery for some distance above the seat of the aneurism in a state of fatty degeneration. We can see in such a case, the cause of failure in the operation of ligation of the artery for aneurism. The ligatures cut through the softened and degenerated arterial coats, and hæmorrhage occurred; compression had been previously tried without success. It is probable that in such cases, the results of compression would be rendered unsatisfactory from the degeneration of the coats of the artery.

In the three following cases, no dropsy and no tendency to it was at any time observed.

CASE XXV.—Aneurism of Arch of Aorta, involving also the ascending Aorta; absence of Dropsical Swelling; Death.

Michael McCann; male; age 35 years; height 5 feet 6 inches; weight 120 pounds; dark brown hair, grey eyes; dark florid complexion; sharp features; native of Ireland; has been twenty years in New Orleans; occupation, day laborer; had syphilis ten years ago, which the patient says affected him for several months; had yellow fever fifteen years ago; and chills and fever in the summer months of 1868.

Admitted into the Charity Hospital November 14, 1868, suffering with pain in right arm, extending up along the side of the neck and head, and attended with difficulty of deglutition. Patient says that he suffered with pain in the right elbow joint, in August, 1868, which lasted three months, and then shifted to the right shoulder joint, and from thence passed to the head, with which he still suffers. Before coming to the hospital, was treated with local applications and liniments, without any perceptible benefit. For four or five weeks after entering the hospital, the patient could not lie down by day nor by night, on account of the great oppression of breathing, and a most troublesome cough, and sensation of choking in the recumbent posture. He lost flesh, his weight being reduced from 155 in health to 120 pounds. The treatment has consisted chiefly of Anodyne, subcutaneous injections of Morphia and Atropia, at night; Iodide of Potassium as an alterative, and Tincture of Sesqui-chloride of Iron as a tonic. The pains are relieved by the subcutaneous injection of Morphia and Atropia, and the patient is unable to sleep without them.

April 3d, 1869: condition of the patient much the same as when he entered the hospital. Constant cough, and constriction about the throat. The patient coughs and clears his throat in a peculiar manner, as if a tumor was pressing upon the bronchial tubes. General appearance favorable; patient is not emaciated or swollen. Skin dry and warm, tongue reddish upon surface. Suffers with pain in head and neck and upper part of right side of thorax. Pulse strong, but differs in character and intensity in the two arms; 70 per minute; apex beat of heart, visible one inch below its natural position. Pulsation very marked and forcible over the upper portion of the sternum, producing a loud impulse against the walls of the chest, over the intercostals of the first and second ribs, immediately to the right of the sternum, where the sounds are loudest. There is also flatness on percussion over the intra-clavicular region, on right side of chest, where the sounds of the heart are heard with the greatest intensity. Temperature of axilla variable, ranging from 98°5 to 100°5 F. The respiration varies from 18 to 22, and is natural with the exception of some prolongation of expiration and inspiration and a peculiar sound as if the bronchial tube was pressed by a tumor. The constant cough, and peculiar clearing of the throat, in like manner indicates the presence of a tumor pressing upon the wind pipe. There is also difficulty and pain in deglutition.

These symptoms led to the conclusion, that this patient was suffering with an *aneurism of the aorta, involving the ascending portion, the arch, and probably also the upper portion of the descending aorta.*

April 6th.—The heart is beating tumultuously; the apex sound being much more distinct than the sound made at the intercostals of the first and second ribs. The pulse in the right arm is weaker than in the left. When the patient raises the right arm and attempts to grasp the bed-post as high up as the arm can reach, standing with his back to the bed, and throwing the hand a little backwards, as well as upwards, he experiences numbness, also a tendency to faint.

May 6th.—There appears to have been a gradual change in the position of the supposed aneurismal tumor in the chest; careful and prolonged examination revealing a more tumultuous and powerful impulse against the supra-clavicular region of the left side. The sub-clavian artery of the left side appears to have suffered dilatation, as it is of great size, and the column of blood is thrown with great power and a marked thrill through its dilated walls, with every impulse of the left ventricle. On the other hand it is remarkable, that the carotid artery on this the left side, can scarcely be felt, being exceedingly small in outline and feeble in beat. In fact it is almost impossible to feel the beat of the carotid, without the most persistent and careful examination. As the carotid and subclavian are given off separately from the arch of the aorta, on the left side, we are forced to one of three conclusions: either the carotid on the left side has been partially occluded, by fibrous matter deposited along the walls of the aneurism, or the tumor presses upon it in some manner, so as to diminish its column of blood; or the aneurism does not extend much beyond the junction of the left subclavian. The third supposition is excluded by the previous history of the case. It would appear that this tumor was slowly shifting its position to the left of the vertebral column. It is well known, that the soft parts become incorporated with the aneurismal tumor, and even the vertebrae are absorbed by the constant pressure, as was seen in the case of the aneurism of the descending aorta, previously described. The diagnosis of aneurism of the arch of the aorta, appears by these signs, and especially by the movable nature of the tumor, to be still further confirmed.

May 30th.—Under nutritious diet, and moderate purgation, and the persistent use of Iodide of Potassium, alternating with the Tincture of the Sesqui-chloride of Iron, the condition of this patient has somewhat improved; at least he has certainly "held his own."

Patient does not suffer any pain of consequence—heart is not so forcible in its action—the left radial pulse is still stronger than the right, whilst the beat of the right carotid is much

more powerful than that of the left, which can scarcely be felt. Dullness upon percussion, with bronchophony extending from the left border of the sternum, to the middle of right clavicle; thence downwards, to midway between clavicle and nipple; thence inwards to left border of sternum, thence upwards, to starting point, making an area, of marked dullness and bronchophony of about four inches in diameter.

June 9th.—Patient is suffering more than usual pain, in head; and neck and supra-clavicular spaces have a full swollen appearance. The patient also suffers pain in the middle and upper portions of the thorax, in the region of the aneurismal tumor; he complains of a smothering sensation in the throat.

June 21st.—Condition of the patient good, complexion that of health; appetite good. Impulse of heart quick and powerful, two and a half inches below left nipple. The apex of the heart acts as if it was thrust directly forwards against the walls of the thorax, making a defined beat. The beat of the heart gives the impression of a tumor above, which forces the heart downwards, or rather from which the organ recoils.

Left supra-clavicular region prominent, a powerful pulsation synchronous with the contraction of ventricles of heart, being evident to the eye, and also to the touch, above the middle of the clavicle. Left carotid artery can scarcely be felt in its beat. The first sound of the heart is heard at the apex, mingling with the powerful blow against the walls of the thorax; the second sound is not distinct, and there appears to be a third sound, which may be due to the pulsation of the aneurism, together with some clicking, thrilling rushing sounds of low intensity. Marked dullness in both supra-clavicular regions along the borders of the sternum, and over the sternum, for two inches below the nipple. Distinct metallic click or thrill over upper portion of sternum.

The air is drawn in and expelled from the bronchial tubes, with difficulty, as if the wind-pipe was compressed. Difficulty of deglutition continues, solid food appears to be arrested about midway in the œsophagus, or rather at the upper third of the sternum.

This patient continued under my treatment until the first of November, 1869, when a change occurred in the wards, and he passed into the hands of Professor Bemiss. Up to this time, the patient had maintained apparently a stationary position; the most marked symptom for the worse was the stridulous breathing and sense of suffocation.

The patient continued much in the same condition, with a gradual aggravation of the disturbance of respiration, and finally died on the 10th of April, 1871. We are informed by Professor Bemiss that up to the time of death there was no dropsical effusion.

A post-mortem examination was held by Dr. Bemiss, and he kindly presented the heart and aneurismal tumor to my pathological collection.

The heart was enlarged, and dilated, and fatty degenerated and flabby. All the cavities were dilated, but the dilatation was greatest in the left ventricle. The arch of the aorta was dilated into a large aneurismal tumor, thirteen inches in circumference, and contained a large laminated fibrinous mass, eleven and a half inches in circumference. Portions of this fibrinous clot were evidently of recent formation, and contained coagulated blood. The ascending aorta was greatly dilated, the dilatation commencing at the junction of the aorta with the heart, and gradually increased upwards to the aneurismal tumor. The diameter of the ascending aorta, just before it passes out of the pericardium, was three inches. The pericardium was thickened. The semilunar valves of the aorta, as well as those of the pulmonary artery, and the tricuspid and semilunar valves, appeared to be normal in structure.

The result of the post mortem confirmed the diagnosis, twelve months before death, viz: Aneurism of arch of aorta.

The wind pipe was compressed into a flattened ribbon-like tube, and the mucous membrane presented a thickened and highly congested appearance. The aneurismal tumor pressed upon the lower portion of the wind pipe and upon the bifurcation of the bronchial tubes.

CASE XXVI.—*Aneurism of Arch of Aorta; great oppression of respiration; absence of Dropsical Swelling; Death.*

William Willoughby: aged 36; height 5 feet 3 inches; weight 147 in health; auburn hair, gray eyes; fair complexion; native of Canada; seaman by occupation. At eleven years of age, suffered with chills and fever, which continued seven years; had yellow fever in 1858; had two falls on ship-board, when intoxicated; these falls were from considerable height, but no ill effects were noticed. About five months before entering the hospital, was in the habit of using his shoulders in pressing up heavy weights and after straining, felt pains in the region of the heart; about a month afterwards began to suffer with pains across the thorax, in right arm, and on side of neck and face.

Admitted to Charity Hospital February 3d, 1869, suffering with pains in the thorax, right arm, and in side of neck and face, and after remaining in ward 21 for one month, a tumor or swelling with a livid surface appeared, extending from four to six inches across the thorax in a line with the second rib; this remained for several days, and then slowly subsided. At the time of his admission the patient weighed only 125 pounds. He suffered with great oppression and difficulty of breathing, and was unable to sleep at night in the recumbent position.

ture. The treatment consisted of subcutaneous injections of Sulphate of Morphia and Atropia. Rest at night could be procured only by these injections. The effects of the Atropia were almost immediately manifest, in the rapid dilatation of the pupils of both eyes.

April 1st.—The patient came under my treatment and observation at this time. Says that he does not suffer so much pain. General appearance that of health, with clear florid complexion; no oedema or dropsical effusion in any part of the body; his countenance, however, wears an anxious, and at times distressed and oppressed look; weight 125 pounds; appetite fair; bowels regular; skin soft and natural; tongue clean; pulse 88; suffers with cough and oppression in breathing. Apex of heart displaced, two inches below, and to the left of the nipple; action of heart strong; pulsations very marked over the sternum, and visible at apex. Great difficulty in the deglutition of solid food, from the pressure of the aneurismal tumor upon the oesophagus; with a sensation as if the passage of the food was interrupted about the centre of the sternum. Respiration 19 per minute, and embarrassed with cough when lying upon back. The cough and clearing of the throat is peculiar in its character, giving the impression of great constriction of the wind pipe and the bronchial tubes, and the sounds are heard as if they proceeded directly from the upper third of the sternum. Pulse feebler in the right than in the left arm.

Diagnosis.—*Aneurism of Arch of Aorta.*

April 2nd.—Condition same, with increased cough.

May 12th.—Complains of pain in side of neck and head, and over the sternum, difficulty in respiration very marked and amounting to decided dyspnoea, especially when attempting to assume the erect position. The least particle of phlegm in the trachea, gives much trouble and distress until removed. Clears his throat in a peculiar manner as if the bronchial tubes were compressed. Great difficulty in the deglutition of food.

Impulse not so marked over sternum, as if the tumor was embedding itself in the posterior walls of the thorax, and against the vertebral column.

May 15th.—Pain not so great, but general appearance less favorable. Hypodermic injection of Morphia and Atropia administered last evening, and the patient is this morning in a nervous state; pulse 96, temperature of axilla 101°75; pulse in right arm very indistinct.

May 31st.—Bronchial rales, over both lungs; rales and vocal resonance more marked over right lung; these physical signs appeared to be clearly referable to the pressure of the aneurismal tumor upon the trachea and bronchial tubes.

The sternum appears to be more prominent upon the right side; apex of heart still further displaced to left of nipple; sounds at this point apparently normal, though with less force than before; and the sound heard over the base; viz., the second.

The bronchial rales are unattended with much expectoration, and it appears, as if the mucus is with great difficulty expectorated, through the compressed bronchial tubes.

June 10th.—Symptoms greatly aggravated; great difficulty of deglutition: great oppression in breathing, with prolonged wheezing inspiration and expiration, as if the air passed through the compressed bronchial tubes and trachea with great difficulty. The patient although oppressed, distressed and weak, still moves about the ward and hospital.

When the ear is placed against the walls of the chest, the sounds of the voice and of respiration appear to issue directly out over the space of at least five inches in diameter, as if the sonorous vibrations were transmitted directly through a tumor. Percussion revealed dullness over the sternum, and over the greater portion of the clavicular and infra-clavicular spaces. The form of the tumor and its position may be made out with great clearness, by combining percussion and auscultation. The diagnosis is especially aided by causing the patient to speak when the ear is applied to different portions of the thorax. The position of the tumor may be made out by auscultation and percussion on the back as well as upon the front of the chest.

When the patient coughs, the sounds are transmitted, almost like peals of distant thunder, to the ear, applied over the walls of the chest, just above the tumor. The loud bronchial rales, heard most distinctly, over all the upper portion of the lungs, appeared to be due solely to the pressure exerted by the tumor.

The patient is evidently near his end, and at this examination the opinion was expressed that his life would terminate suddenly from suffocation in the course of a few days.

During the night of the 13th of June, the patient was seized with great difficulty of respiration, became black in the face, struggled violently for breath, and died suddenly from the effects of the compression of the bronchial tubes or arrest of respiration.

This patient had friends, who carried off his body, before a post-mortem examination could be made. This was greatly to be regretted.

It was clearly shown in the preceding cases also, that the most extensive aneurisms are not necessarily attended with dropsy.

CASE XXVII.—*Aneurism of Ascending Aorta and Arch of Aorta; Dilatation of left Ventricle: Sudden Death; Absence of Dropsical Effusion or Œdema.*

Mooney, age 56, native of Ireland, tall, well-formed man, entered the Charity Hospital, ward 16, bed 150, January 16th, 1870. Has been in this hospital several times before.

At the time of my examination, January 18th, the patient presented well developed limbs. Suffered with great oppression in breathing, loss of rest, and almost complete prostration after making any effort. I attempted to examine this patient, but he suddenly became greatly oppressed, his lips and hands turned blue, and the patient appeared to be dying.

The results of this imperfect examination, was, dullness upon percussion, over and around the space normally occupied by the heart, for an area, the diameter of which was at least seven inches transversely, and eight inches laterally; the apex beat of the heart was at least two inches below its normal position; great oppression in breathing, inspiration and expiration prolonged, with a wheezing sound, as if the air was passing through a greatly constricted trachea. It was necessary to prop the patient up in the sitting posture before an open window. The symptoms of enlargement of the heart and aneurism of the aorta were well marked. This patient died suddenly next morning.

The post-mortem was performed eight hours after death.

The exterior was full and without marks of œdema.

When the cavity of the chest was opened, the heart was found to be enlarged, with all the cavities distended to their utmost capacity, with dark fluid blood. The ascending aorta was greatly dilated, the dilatation commencing at the heart, and increasing rapidly upwards, and just after emerging from the pericardium, the arch of the aorta expanded into a large aneurismal sack, six inches in diameter. The arteries given off from the arch of the aorta were greatly dilated, and the innominate artery, was, at its junction with the aneurismal tumor, as large as a healthy aorta. The pericardium was adherent to the heart, this adhesion appeared to have been of long standing, and was probably coincident with the changes in the semilunar valves. The heart measured

in its longest diameter, seven inches, and in its short diameter six inches. The semilunar valves of the aorta were thickened, adherent at certain points and insufficient. The aortic regurgitation accounts for the great dilatation of the left ventricle. As far as we could learn, this patient had suffered with deranged action of the heart and oppression of breathing for more than six months, and he referred the first distressing symptoms, to the lifting of a great weight.

We shall consider in the next place, briefly the treatment of cardiac dropsy.

Treatment of Cardiac Dropsy.

When dropsy depends upon serious organic lesions of the heart and large blood-vessels, treatment should be regarded as chiefly palliative; the physician may relieve certain symptoms of the most grave and distressing character, and relieve intense suffering and thus prolong life, for a considerable length of time; but the cure of the disease, is in many cases out of the question, as it is impossible either by drugs, diet or mechanical means, to restore the enlarged, dilated, degenerated heart and insufficient valves, to the normal state.

Cardiac dropsy supervenes in most cases, after the forces have been depressed, and the blood rendered watery, venesection therefore as well as drastic purgatives should be used with great caution. Local blood-letting (cut cups over the region of the heart and kidneys) may accomplish good results by relieving congestion and promoting free diuresis.

It is well known that diminished fullness of the vascular system promotes the absorption of serous effusions; when therefore obstruction to the circulation of the blood through the heart, co-exists with pulmonary congestion and anasarca, and at the same time, the general vigor is as yet unimpaired, the abstraction of a moderate quantity of blood, affords relief to the over-loaded blood-vessels, and congested lungs, and facilitates the action of hydragogue remedies.

Bitartrate of Potassa, the Compound Jalap Powder, Gamboge and Elaterium, are peculiarly valuable, from their certainty of action as hydragogue purgatives.

From one ounce to one ounce and a half of the bitartrate of potassa, in eight ounces of water, taken in two doses at an interval of two or three hours, forms one of the most effective and safe purgatives.

The Extract of Elaterium may be adminished in doses of from one-sixth to one-half of a grain. Caution, however, must be employed in the use of the Extract of Elaterium, on account of its intense activity, and occasionally depressing effects. A bolus of the following composition has been recommended and employed with success by various physicians: *R. Pulveris Jalapæ, Pulveris Rhei., Pulveris Scammonii, ãã, gr. v; Elaterii, gr. ss; Bitartratis Potassæ; Sulphatis Potassæ, ãã, 3ss; Syrupi Zingiberis; quantum sufficit ut fiat bolus.* It is an observation of long standing, that in the exhibition of remedies, more decided and beneficial effects may be obtained by combining several analogous remedies in small quantities, than by giving a single one in a large dose.

In cardiac, as in other forms of dropsy, the urine is almost always scanty, and the progress of the effusion frequently bears a direct relation to its diminution; the attention therefore should be strongly directed to the secretory function of the kidneys, as affording the most probable channel for the relief of the disease.

Although sometimes uncertain in their action, diuretics, upon the whole prove most effective in the control, moderation and even complete removal of dropsical effusions.

As far as my experience extends, the Bitartrate of Potassa, or Cream of Tartar, is the best diuretic, and I have relieved many cases of dropsy by this remedy alone. When used as a diuretic from half an ounce to one ounce and a half, should be suspended in a pint of water, and the mixture should be taken in wineglassful doses, every two or three hours, so that the whole may be administered during the twenty-four hours. The bottle containing the mixture should be always most carefully agitated, as the cream of tartar is almost insoluble, and falls to the bottom of the vessel upon standing. When the digestion is impaired, or should dyspeptic symptoms be induced by the cream of tartar, we should employ as a vehicle for the salt, an infusion of juniper berries, or

wild carrot seed, and some aromatic, cardamom, fennel or ginger may be added.

It would be foreign to our purpose to enter into any recapitulation of the remarks made at the bedside with reference to the various diuretics, and we shall simply name those of the most undoubted efficiency; as:

Acetate, Nitrate and Citrate of Potassa; Acetate of Ammonia; Iodide and Bromide of Potassium; Nitric Ether; Squills; Digitalis; Veratrum; Colchicum; Tobacco; Decotion of Scoparium and of Chimaphila.

Squill as an active diuretic has enjoyed a high reputation with the profession, and it appears to be peculiarly useful in dropsy of the chest, with scanty, high-colored and uncoagulable urine, which deposits a sediment on standing. It should be used at short intervals and in such doses as to produce nausea, and the patient should be subsequently kept just within the nauseating point. In cases which demand the mercurial influence, the squill may be advantageously combined with calomel. Small doses of Blue Pill, occasionally at bedtime, will frequently promote the action of diuretics.

Diaphoretics are much less efficient than diuretics and cathartics; beneficial results, however, may be obtained by the free diuresis excited by the vapor or hot air bath.

When drugs fail to control the dropsy, mechanical means become necessary for controlling its influence; such as tapping, puncture with a sharp lancet and acupuncture. Owing to the danger of the supervention of erysipelas, incisions should be made with great caution, and whenever practicable, puncturing with the needle should be preferred, the point of the needle should merely penetrate the true skin, the punctures should vary in number from twenty to fifty or sixty, according to the part or the extent of the effusion, and they should be at least half an inch asunder.

When the blood is anæmic, Iron and the bitter tonics, and nutritious diet should be employed.

Experience has established the fact, that no advantage arises from the denial of water to dropsical patients.

In some cases attended with great debility, spirituous liquors, in moderate amount, are indicated; hard cider and gin, are amongst the best forms of alcoholic stimulants.

Of course, the results of treatment will depend, in a great measure, upon the extent and character of the organic lesions.

Hepatic Dropsy, arising from some obstruction to the circulation of the blood through the Liver.

The distinguishing character of dropsy, from diseases of the liver or portal vein, as laid down by systematic writers, are :

1st. In uncomplicated portal obstruction, the dropsy commences in the abdomen, and the legs are only affected secondarily and in consequence of the pressure of the ascitic fluid on the inferior vena cava. When the affection of the liver is complicated with heart disease, the ascites may be preceded by dropsy of the legs.

In cardiac disease, on the other hand, anasarca commencing in the feet and gradually proceeding upwards, precedes the ascites; and even when the belly becomes swollen, the swelling of the legs is out of all proportion to the ascites.

2d. No signs of dropsy in the face, arms or upper part of the trunk, are observed in dropsy arising from obstruction of the portal system; whilst in that form of the disease which is dependent upon structural alterations of the kidneys, œdema of the face and arms is a very common symptom even in the early stages.

3d. Dyspnœa, never precedes the hepatic dropsy, although it may accompany the serous effusion when great; from the pressure of the fluid interfering with the action of the diaphragm and abdominal muscles: in cardiac dropsy on the other hand, the dyspnœa *precedes* the ascites, and is distressing out of all proportion to its extent. In cardiac dropsy, from the congestion of the lungs and imperfect aeration and circulation of the blood, there is more or less lividity of the lips, face and extremities, whilst this symptom is not characteristic of uncomplicated portal obstruction.

4th. If there be no concurrent disease of the kidneys, albumen is absent from the urine, except in those cases, in which the

ascites itself, when extensive, may, in consequence of the pressure of the fluid on the renal vein, lead to the appearance of albumen in the urine. The albumen, however, disappears upon the withdrawal of the pressure, as in the operation of paracentesis. The absence of puffiness of the face, or pitting of the upper extremities, and of granular, fibrinous and oil casts from the urine, will still further distinguish hepatic dropsy, from that dependent upon alteration and degeneration of the kidneys.

5th. The ascites occasioned by portal obstruction, is still further distinguished, by enlargement of the spleen, enlargement and tortuosity of the superficial veins of the abdomen, hæmorrhoids, gastro-enteritis and hæmorrhages from the stomach and bowels. Enlargement of the superficial veins of the abdomen, however, is not in all cases a certain indication, as the same appearance is sometimes observed in cardiac dropsy and in renal dropsy, as the result of the pressure of a large quantity of ascitic fluid upon the inferior vena cava; but in such cases, there will be usually also a varicose state of the veins of the legs.

It is important that we should consider briefly those morbid conditions of the liver, which give rise to dropsical effusions, in connection with those diseased states of this organ, which seldom or never gives rise to this symptom.

In waxy, lardaceous or amyloid degeneration, the liver undergoes greater enlargement than from any other disease, excepting, perhaps, cancer; the enlargement being often so great as to fill up a large portion of the abdominal cavity. The enlargement being uniform in every direction, the form of the organ is not essentially altered, the outer surface is smooth, and the lower margin more rounded than natural, regular and free from all indentations. In rare cases, this change may co-exist with cirrhosis, or with syphilitic gummy tumors, and then the organ may present a nodulated surface, and this complication may be attended with ascites.

In like manner when accompanied with waxy degeneration of the kidneys, dropsy may result from the derangement of the excretory function of these organs:

In those cases of waxy deposit of the liver, which have come under the observation of the students of the Medical Department of the University of Louisiana, the statements of pathologists has been verified, that there is but little tendency to obstruction of the portal circulation; and consequently ascites, and enlargement of the subcutaneous veins of the abdominal walls, are not common phenomena in its clinical history. The absence of ascites in waxy liver, has been accounted for by the fact, that the branches of the hepatic artery, and not of the portal vein, are implicated in the disease. In some rare cases of waxy liver, ascites results from the pressure of enlarged waxy lymphatic glands in the fissure of the liver, upon the trunk of the portal vein.

In fatty liver, the enlargement is due to the accumulation of oil, as has been well shown in the post-mortem examinations, and in the specimens of fatty liver mounted in alcohol. In fatty liver, as in the waxy disease, the enlargement is uniform in every direction, and without tumors or nodules upon the surface, and the natural form of the liver is but little altered; there is no ascites or enlargement of the superficial veins of the abdomen, the secretion of bile is not arrested or impeded, and jaundice is not a symptom, and as in waxy liver, throughout the progress of the disease, pain is absent. This degeneration of the liver is often accompanied by similar changes in other organs, and more especially the heart and kidneys. Fatty degeneration of the heart is evidenced by the feeble cardiac impulse, faint cardiac sounds, slow or quick, feeble and irregular radial pulse, attacks of vertigo, syncope or pseudo-apoplexy, and dyspnoea on slight exertion. When fatty degeneration of the liver, is attended by fatty degeneration of the kidney, there will be a tendency to general anasarca; the urine is diminished in quantity, oftentimes turbid, and contains albumen and casts of the tubuli uriniferi, containing oil globules.

In simple hypertrophy of the liver, attended by an increased size of the lobules, and by an increased size or number of the secreting cells, without any alteration of structure, the enlargement is uniform, and rarely great, and is not attended by any prominent symptoms nor by dropsical effusion.

Whilst the enlargement may be very great in hydatid tumor of the liver, ascites, œdema of the lower extremities, enlargement of superficial veins of the abdomen, and hæmorrhoids are not distinguishing characters; and as the hydatid tumor rarely interferes with the functions of the kidneys, those of the urine so common in waxy and fatty enlargements, are absent; in rare cases however, the kidneys also may be the seat of hydatids, and dropsy may arise from this cause, or from the pressure of the hydatid tumors upon the portal trunk; or from the bursting of the cyst, or through the supervention of peritonitis.

Ascites rarely results from mere congestion of the liver, unless this depend on mechanical obstruction of the circulation in the heart and lungs.

In the venous engorgement of the liver resulting from mechanical obstruction of the cardiac circulation from valvular disease of the heart, the primary enlargement of the liver gives place after a time to an opposite condition of contraction, atrophy of the *central portion of the lobules*, being induced by the pressure of the constantly distended veins. The congestion of the liver dependent upon cardiac disease, induces a form of granular liver very different from true cirrhosis, where the atrophy commences at the *circumference of the lobules*.

The diseases of the liver which most commonly give rise to portal obstruction, with ascites, are, according to those pathologists who have had the most extensive opportunities of observation: 1. Cirrhosis and other forms of chronic atrophy of the liver; 2, cancer of the liver; 3, peri-hepatitis; 4, thrombosis, or obstruction of the trunk of the portal vein.

We shall confine our observations to the first and most common cause of portal obstruction and ascites; viz., cirrhosis of the liver.

Cirrhosis of the liver is most common in those countries, where the drinking of alcoholic stimulants prevails, and the disease can almost always be traced to the abuse of strong spirits; and hence the name *gin drinker's liver*.

Most observers have noted in the early stages of true cirrhosis, a temporary congestion and enlargement of the liver, apparently caused by the irritant effects of the alcoholic stimulants.

The lobules of the liver have been described by Malpighi, Kiernan, Müller, Leidy and others, as isolated from each other, and each invested with a layer of areolar or fibrous tissue. In the pig, in which these lobules were first noticed, and in the Polar bear according to Müller, and in the *Octodon Cummingii*, according to Hyrtl, the lobules are invested by fibrous tissue, but in the liver of the human subject, and in that of the vertebrate animals generally, the lobules are not separated from each other by a fibrous partition, and there is no areolar or fibrous tissue or prolongation of Glisson's capsule between them or in their interior. Vogel, Henle, Bowman, and Beale have failed to detect any fibrous tissue in the interlobular fissures of the normal human liver.

In cirrhosis of the liver, on the other hand, there is a remarkable development of fibrous tissue in the parenchyma of the liver; and the individual, secreting segments become prominent or even form isolated lobules. The increase of fibrous tissue in the cirrhotic liver, may be manifest to the eye, and especially when slices of the organ are subjected to the action of a stream of water, and gently washed between the fingers. The character of the fibrous tissue may be determined by microscopical examination. Cirrhosis of the liver is of slow development and progress. The whole structure of the liver is not pervaded with fibrous tissue in a few days. It is reasonable to conclude with Dr. Budd, that the remarkable changes in cirrhosis, are mainly the consequence of adhesive inflammation in the areolar tissue about the small twigs of the portal vein, and in the areolar tissue of the portal canals, by which serous fluid and coagulable lymph are poured out.

In this stage the liver may be enlarged. The serous part of the effusion is next absorbed, the lymph contracts, becomes converted into dense fibrous tissue, which divides the lobular substance of the liver into well defined masses, and gives great density and toughness to the organ. Finally, this fibrous tissue compresses the small twigs of the portal vein and the small gall ducts, and thus impeding the escape of the bile and the flow of blood induces great atrophy of the original hepatic tissue, and

causes, by a deprivation of the blood and the admixture of this dirty white fibrous tissue, marked changes in the color of the liver.

In cirrhosis, the normal, dull, reddish brown color of the liver is altered to a bright canary yellow, sometimes to a brownish or greenish, and occasionally to a reddish color. A section of the liver, upon a general view, presents the grayish and yellow color of impure beeswax.

Owing to the contraction of the organ in the latter stages, the outer surface presents a granular or nodulated character, which has given rise to the designation, "*lob nail liver*." The yellow color of the organ is also due to the large amount of yellow pigment contained in the secreting cells, and hence the term cirrhosis. The capsule is also sometimes thickened and adherent to the surrounding parts.

In the firm tenaceous granular liver, resulting from the congestion caused by obstructed cardiac circulation, and which has frequently been mistaken for cirrhosis, the depressions however correspond to the centre of the lobules, whereas in true cirrhosis they are at the circumference.

Ascites, resulting from portal obstruction, is met with oftener in cirrhosis than in any other disease of the liver. The fluid in the peritoneum, is a clear yellow serum, rich in albumen, and without any blood or inflammatory products. In consequence of the congestion and distention of the veins that return the blood from the intestines and peritoneum, the serous portion of the blood transudes through the walls of the vessels into the peritoneal cavity, and when once ascites appears, it persists and gradually increases; and when the amount of the effused fluid is large, it may compress the inferior vena cava and iliac veins, and thus produce secondary œdema of the legs, but it is a peculiarity of dropsy from uncomplicated portal obstruction, that the ascites precedes and preponderates over dropsy elsewhere. A large accumulation of fluid in the peritoneum may also interfere with the action of the diaphragm, and cause embarrassment of respiration, but it is distinguished from the ascites caused by cardiac disease, by the fact that the *dyspnœa follows and never precedes*

the ascites. Pressure exerted on the renal veins by a large quantity of fluid in the peritoneum, may also embarrass the action of the kidneys, and lead to the appearance of albumen in the urine, independently of any disease of those organs, the albumen disappearing from the urine, after the removal of the pressure by the operation of paracentesis.

The following cases will illustrate the characters of dropsy resulting from portal obstruction.

CASE XXVIII.—*Dropsy resulting from obstruction of the portal circulation in Cirrhosis of the Liver.*

This case illustrates in a striking manner, the effects of obstruction of the portal circulation, in the production of ascites, and of serous effusion into the cellular tissue of the lower extremities.

S. McL.—, native of Rapides Parish, Louisiana; lately a resident of Catahoula Parish; has been engaged in farming during the past two years; age 35; height 6 feet; blue eyes, dark hair, dark complexion, thin beard; no hereditary tendencies; up to the present attack has enjoyed good health with the exception of occasional attacks of chills and fever. Patient says that he has used ardent spirits in moderation, and never to excess, except upon one occasion when he had an index finger shot off.

Patient states, that three months since, was seized with violent abdominal pains, extending from the umbilicus to the pubis, and attended with griping. A few days afterwards was seized with violent vomiting and ejected a large quantity of blood ("an ordinary blue bucket full"); the vomiting and loss of blood was attended with great exhaustion; four days afterwards, there was a repetition of this attack, attended with vomiting of blood.

Two weeks afterwards, an increase in the size of the abdomen was observed, attended with swelling of the lower extremities. Purgatives and diuretics, were administered; the patient remembers that Eleterium was used which appeared to be productive of no beneficial effects. Three weeks since his lower extremities began to ulcerate, and the ulcerations involved the subcutaneous areola tissue, and ragged indolent ulcers appeared.

This patient was admitted into the Charity Hospital, ward 19, bed 284, on the 13th of April, 1869, in an exhausted restless state; abdomen greatly distended; lower extremities oedematous and ulcerated. Auscultation and percussion revealed no disease of the heart and lungs.

The lungs and diaphragm were forced upwards by the effusion in the cavity of the abdomen the heart also appeared to be pressed upwards and forwards.

The sounds of the heart were unusually distinct, and abrupt and sharply defined but no enlargement, dilatation, degeneration or valvular disease, could be discovered. The lungs were resonant: the respiration was more frequent than usual, from the abdominal pressure, but there were no signs of obstruction in the pulmonary circulation; no pleuritic effusion, and no tubercular deposit.

The abdomen was enormously distended with dropsical effusion, and the veins of the abdominal parietes were enlarged and filled with blue dark blood, and presented a distinct arborescent appearance upon the abdominal parietes. The lower extremities were greatly swollen, and the legs ulcerated, with thickened, indurated discolored integument. The general complexion was sallow and anæmic. The urine was scant, high-colored, and loaded with biliary acids. The swelling was circumscribed by the superior wall of the abdominal cavity, and in fact, by the diaphragm. All above this was of the normal appearance, and the face and arms and thorax were thin and wasted, almost skeleton-like, whilst all below the diaphragm was swollen and infiltrated with serous fluid.

The sallow, jaundiced hue; the presence of the constituents of bile in the urine; the limitation of the swelling to the abdominal cavity and lower extremities; the absence of all organic disease of the heart and lungs; the absence of albumen and of fibrinous casts from the urine; the abdominal dropsy, and the congestion of the venous system of the abdomen and lower extremities, all sustained the diagnosis, that this was a case of CIRRHOSIS OF THE LIVER, in the latter stage of contraction, unattended by disease of the heart, lungs or kidneys.

The bowels were opened with two Compound Cathartic Pills, and the patient was placed upon the diuretic mixture composed of Cream of Tartar oz. i, Juniper Berry Tea (Juniper Berries oz. i, boiling water f. oz. xvi; after cooling strain) f. oz. xvi; to be taken in wine-glassful doses during the twenty-four hours,

The ulcerated extremities were treated with a stimulant and antiseptic ointment composed of Carbolic Acid drachms i; Tincture of Iodine f drachms i; Simple Cerate oz. ii. Mix; and apply lightly to ulcerated legs; and cover the ulcerations with English lint coated with Simple Cerate. Simple, but nutritious diet was directed. One sixth of a grain of Morphine was ordered at bed time, with directions to repeat in three hours, if necessary.

April 15th.—Temperature of axilla 97°; it is of importance to note that the temperature is below rather than above the normal point. This depression appears to be due to the obstruction in the portal circulation, caused by the cirrhosis and contraction of the liver, and also to the interference of the circulation and respiration from the abdominal pressure.

This observation, as well as others, confirmed the accuracy of the diagnosis, as to the absence of tuberculosis, and also confirmed the view that the affection of the liver was of long standing and in the stage of contraction.

Only eight ounces of urine were collected during the twenty-four hours; specific gravity 1030; high colored, loaded with biliary acids; upon standing let fall a copious deposit of urates, which disappeared when the urine was heated, and yielded a large crop of crystals (lozenge-shaped) of uric acid.

The diminution in the amount of urine appears to be due in a manner to the pressure of the fluid distending the abdomen, and also to the small amount of nourishment taken, the anemic state of the blood, and the depletion of the serous or albuminoid elements of the blood.

April 16th.—During the night the patient was aroused about 1 o'clock A. M., with violent retching and vomiting, and ejected a greenish black matter in sufficient amount to fill an ordinary wash basin. This afforded some relief, but the patient was considerably depressed. In two hours the nausea returned, and the patient vomited a similar amount. The matter was so disagreeable in its odor, that vomiting was excited in his nurse, whilst removing the matter from the ward.

Twenty-two ounces of urine were collected. Sp. gr. 1030; high colored; bowels free. Appetite poor.

April 17th.—The nausea, with occasional efforts at vomiting, continuing, the Bitartrate of Potassa and Infusion of Juniper Berries were discontinued. No appetite. Bowels free. Seven and a half fluid ounces of urine collected; high colored and loaded with biliary acids and urates. Ulcerations of the lower extremities improving under the use of the Carbolic Acid ointment. Patient restless and unhappy. It has been necessary to administer Morphine each evening to produce rest. Tincture of Clovebuds of Gentian and of Rhubarb, in proportion of two parts of the former to one of the latter, have been given, properly diluted, in wineglassful doses, as a tonic and gentle laxative.

April 18th.—Symptoms the same; the distention of the abdomen has progressively increased. Only four fluid ounces of urine collected during twenty four hours.

April 19th.—No change; distention of the abdomen so great as to embarrass in the most distressing manner the action of the heart and lungs.

It was determined to tap the patient upon the following morning. Sixteen and a half ounces of urine were collected; upon careful testing no albumen was discovered; urine high colored and loaded with urates and biliary acids; sp. gr. 1030.

April 20th.—At my request, Dr. Warren Stone, Jr., performed the operation of paracentesis, midway between the anterior superior spinous process of ileum and umbilicus; three and a half gallons of serous fluid were drawn off, which presented a light golden yellow color. Specific gravity of serous fluid 1069, and upon the application of heat, the coagulated albumen filled about one-fifth of the test-tube. The patient expressed great relief. Percussion revealed no enlargement of the liver, but an actual diminution in the volume of this organ. After the application of the bandage around the abdomen, the patient was put on stimulants and nutritious diet.

Seventeen ounces of urine collected, high colored, loaded with urates and biliary acids; free from albumen; sp. gr. 1027.

April 21st.—Condition of the patient apparently improved by the tapping; appetite good; swelling rapidly subsiding from the lower extremities, and ulcers healing. Twenty-four fluid ounces of urine collected; high colored; sp. gr. 1027; no albumen.

April 22.—Patient perspiring freely; previously the skin has been dry and harsh. Serous fluid gradually accumulating in the abdomen. Appetite good, spirits cheerful, bowels regular. Urine presented similar character.

The patient was placed upon a gentle course of mercury, one grain every four hours, and on the 27th his gums were slightly touched; the abdominal swelling, however, went on steadily increasing. The patient continued to lose strength, and the accumulation of serous fluid in the abdominal cavity continued until the distention was as great as before the first tapping. Bedsores began to form on the 29th, and a persistent diarrhoea set in, which was not arrested by astringents.

The patient became delirious on the night of the 30th, and lay in a semi-comatose state, and passed his urine and excrements in bed; and gradually sank by almost imperceptible stages, lying for two days in a state which could with difficulty be distinguished from actual death, and finally died at 4 o'clock P. M., May 3d.

The *post-mortem*, performed twelve hours after death, revealed the following points:

Upper extremities, head, neck and thorax, greatly emaciated, merely the skeleton with the skin stretched over; abdominal cavity and lower extremities greatly swollen and distended. The abdominal cavity contained near four gallons of serous fluid.

The lungs were healthy; without tubercles, or adhesions, or any marks of inflammatory change.

The heart was normal in size, with no lesions of the valves; the pericardium, however, was adherent, and this adhesion of the serous membrane of the heart, throughout its entire extent, accounted for the more distinct sounds of the heart.

The liver was greatly contracted, hardened, and of a slate color; and the spleen also was enlarged and hardened, and of a similar color with the liver. The kidneys were congested but healthy. No derangement beyond congestion of the bloodvessels was discovered in the kidneys.

The liver was cirrhotic, hardened and greatly diminished in size; the weight being only twenty-four ounces; the length ten inches, and breadth four and a half inches, and greatest thickness two and a half inches. The liver had lost the appearance of divisions into lobules upon the exterior, and resembled an elongated flattened spleen.

The color of the liver was slate on the exterior, and a mottled olive green yellow and bronze within.

The peculiar color of the liver appeared to be the result of the previous attacks of malarial fever, and the slow action of the malarial poison. Under the microscope, the fibrous tissue was found to be greatly increased, and the dark masses of altered hæmatin were scattered throughout the structures, giving to the organ, its peculiar malarial hue. The liver cut like leather and was firm and hard.

The spleen was enlarged and indurated and had lost the natural splenic mud. Weight of spleen: nine ounces; length, six inches; breadth, three and a half inches; thickness, one inch. Spleen cirrhotic like the liver, and cut like leather. Contained numerous masses of hæmatin and altered blood corpuscles.

This then was a case of undoubted induration and contraction of the liver, unaccompanied by disease of the heart or kidneys; but attended with the marks of pre-existing malarial disease.

The relations of the action of the malarial poison, to the induration and contraction of the liver, are of the most important character, and demand farther investigation.

The question is, whether the effects of the malarial poison were merely concurrent with, or subsequent to, the establishment of the cirrhosis, or whether they caused the peculiar state which lead to the throwing out of fibrous matter, and the subsequent contraction and induration of the organ.

This case, resembles the chronic atrophy of Frerich, or the red atrophy of Rokitansky; in which there is no nodulation or granulation of the outer surface, and not necessarily any thickening or adhesions of the capsule. The liver affected with the chronic atrophy of Frerich, like that of the case now under consideration, presents a dark-brown, or bluish-red color, firm consistence and homogeneous appearance, with little or no indication of a division into lobules; the secreting cells being smaller than natural and loaded with dark-brown pigment granules. In like manner, the atrophy of the organ is general, and as in the present case it has been known to weigh only twenty-four ounces. But the most important anatomical character of chronic atrophy, is said to be, the destruction of the ramifications of the portal vein, the branches of which terminate in club-shaped extremities, so that the organ cannot be minutely injected from the portal vein.

Pathologists describe this comparatively rare form of liver disease, as being occasionally seen in connection with simple and cancerous ulcerations of the stomach and intestines, or with a deposit of blood pigment in the minute vessels of the liver, in the bodies of persons, who have suffered long or often from intermittent or remittent fevers.

It is well known that both the liver and spleen are congested during the cold stages of intermittent and remittent fever, and during the action of the malarial poison, either in its most active manifestation, or in the state of chronic malarial poisoning, the colored blood corpuscles are destroyed in large numbers both in the liver and spleen.

It is reasonable therefore to refer the induration and atrophy of the liver in this case, in its first origin, to the action of malaria.

CASE XXIX. Dropsy resulting from Cirrhosis of the Liver and Cardiac disease.

This case of the stout seamen, William Woods, who died in ward No. 18, a few days after coming under my treatment, presents several points of interest, and the dropsical effusion in the cavity of the abdomen, and into the cellular tissue of the face, and upper and lower extremities, were due to both cardiac disease and cirrhosis of the liver. The following outline of this case will serve for comparative deductions.

William Woods; aged 47; dark hair, dark complexion; in health a large powerful, stout, athletic man; ship carpenter by trade; has been sick about two years; says that his disease commenced whilst working in the water; has always used ardent spirits daily in large or rather, pretty free quantities.

Entered the Charity Hospital November 9th, 1868. At that time the abdomen was much distended with serous effusion, and it has been necessary to tap the abdomen upon several occasions; and several gallons of water have been drawn off.

When this patient came under my treatment in the month of March, 1869, the complexion was of a wax-like, unhealthy jaundiced hue; the features of the face were swollen and livid from venous congestion; the abdomen was distended with dropsical effusion, and the extremities were oedematous. Patient feeble, but able to sit up, and walk about a little. Great obstruction of venous circulation; veins of neck distended with black blood. Lips livid. Arteries in all parts of the body, where they could be carefully examined, greatly enlarged and tortuous, with a powerful beat. The column of blood is sent out with great force from the heart, giving a powerful beat to the arteries, which appeared to be universally enlarged and degenerated. This degeneration of the arterial system is still farther shown by the *arcus senilis*. Great oppression in breathing. At times the restlessness and oppression very great. Patient cannot lie down with comfort, but requires to be propped up in bed. Percussion and auscultation revealed dullness in the lower dependent portions of the lungs, and greater flatness over the chest than in health; there were no symptoms of pneumonia or pleurisy or of phthisis, and the dullness was referred wholly to the obstruction of the circulation. Heart greatly enlarged, with a powerful beat. The dullness upon percussion extends from the junction of the second rib with the sternum, to the lower edge of the seventh rib, and even beyond the right border of the sternum. The region of dullness, indicating the position of the enlarged heart, is eight inches in the longitudinal and about six inches in the lateral or transverse diameter.

The first sound of the heart is entirely altered to a low bellows sound, terminating abruptly by the powerful closure of the pulmonary and aortic valves. Both sounds of the

heart are merged into one—a powerful, low, blowing sound, with a sharp, loud termination: thus TU-U-CHUCK. The sounds of the heart resemble those made by an ordinary steam tug. The sounds of the heart are heard with great distinctness along the track of the large arteries, and especially of the carotids.

Abdomen greatly distended with serous effusion. Liver apparently diminished in size and hardened.

Derangement of the liver is evidenced aside from the ascites, by the yellow jaundiced hue of the complexion, and the great amount of bile in the urine. Oedema of extremities. Bowels constipated. Appetite poor. No marked febrile phenomena. Patient dull and lethargic, but calm and sensible.

The diagnosis of this case was:

Hypertrophy and Dilatation of Heart.

Universal Degeneration and Dilatation of Arterial System.

Great Enlargement of Aorta.

Cirrhosis of Liver.

The dropsical effusion was referred directly to these causes.

The patient continued to grow worse; treatment was only palliative, and he died on the 27th of March, 1869.

The *Post-mortem Examination*, performed six hours after death, revealed enormous hypertrophy of the heart; this organ was eight inches in the longest diameter, and six and a half inches in transverse diameter, after being emptied of the dark venous blood which distended its cavities, and after being preserved in alcohol. During life, when distended with blood, its dimensions were much greater. All the cavities of the heart, but more especially the left ventricle, were dilated, and the auriculo-ventricular openings were greatly dilated. No thickening of the auriculo-ventricular valves was observed.

The valves of the aorta and pulmonary arteries were somewhat enlarged and perhaps degenerated, but no deficiency or adhesions or calcareous degeneration were observed.

Aorta and pulmonary artery; but especially the former, degenerated, roughened and dilated. The dilatation of the aorta amounted in the ascending portion and arch almost to an *aneurism*. The arteries were universally dilated and degenerated in their structure, and appeared in a great measure to have lost their elasticity. Microscopical examination showed that this dilatation and loss of elasticity was due to the conversion of the unstriped muscular fibres into fat. The liver presented a rough hob-nail appearance upon its exterior; it was contracted, diminished in size; the capsule was greatly thickened, and could be peeled off, and the structures were cirrhotic.

Kidneys congested, but healthy in structure—no degeneration or alteration of secretory textures.

Spleen somewhat enlarged.

This liver, as in all the other patients who had been exposed to the malarious climate of the Mississippi valley, presented a darker color than usual in cirrhosis, and also gave evidence in the dark granular masses of the preceding destruction of the colored blood corpuscles.

The dropsy in the preceding case was clearly referable to cirrhosis of the liver, and cardiac disease.

We will consider briefly in the next place:

The Treatment of Hepatic Dropsy.

The treatment of dropsy arising from portal obstruction, must depend not only upon the cause of this condition, but also upon the various complications, as cardiac and renal disease. The preceding cases illustrate in a clear manner, the fact, that dropsy may be referred in the same case, to several causes, as cirrhosis of the liver, and cardiac disease; it is therefore absolutely essential that the physician, should, as far as possible, clearly recognize in each case the cause or prominent cause of the dropsical effusion. It would be foreign to our purpose, to discuss the mode of treatment applicable to all the diseases of the liver, which may give rise to ascites; and our effort will be to indicate briefly the mode of treatment of that form of dropsy illustrated by the preceding cases, viz., ascites arising from *cirrhosis of the liver*.

Cirrhosis of the liver is at the outset obscure and insidious, and is slow in its progress, often extending over several years, the physician therefore rarely has an opportunity of treating the disease at its commencement. When, however, the existence of the disease is indicated by the symptoms of disordered digestion, loss of appetite, flatulence, irregular action of the bowels, pain after food, dull pain, with slight tenderness in the right hypochondrium, and slight enlargement of the liver, occurring in a person addicted to spirit drinking, attention should at once be directed to the habits and diet of the patients. Alcoholic stimulants, and rich, indigestible, stimulating food and condiments, should be interdicted, and the patient confined to spare, but nutritious diet, consisting of such articles as milk, eggs, and farinaceous substances, with a moderate allowance of meat and fish. In order to avoid the occurrence of delirium tremens, it will be necessary in some cases in which the habit of taking large quantities of alcoholic stimulants has been fully established, to reduce the amount gradually. The bowels should be kept freely open, by saline purgatives, and occasional doses of blue mass and calomel, and the general health preserved by regular exercise in the open air.

If the pain and uneasiness, in the region of the liver, is well marked, sinapisms, leeches, dry cups and cut cups may be used over the affected organ, with benefit.

If the liver still remains enlarged, after the subsidence of pain, the alterative effects of Iodine—ether locally, in the form of the tincture or ointment, over the region of the liver, or internally, in the form of the Iodides of Potassium and Iron, or of Lugol's Solution should be carefully tried. If these measures fail in reducing the liver, recourse may be had to the mineral acids, the Hydrochloric, Nitric and Nitro muriatic Acid, internally, and to the Nitro-muriatic acid bath*.

When the stage of contraction of the liver sets in, as evidenced by diminution of the area of hepatic dullness, jaundice and

* The Nitro-muriatic Acid Bath is prepared by adding two ounces of strong Hydrochloric Acid, and one ounce of strong Nitric Acid to two gallons of water, at 98° F. Deep, glazed, earthen or wooden vessels should be used, and the feet and legs are immersed in the bath, whilst the thighs and right side are sponged with the acid solution. The patient should remain in the bath from half an hour to one hour. The bath thus prepared should be renewed at least every third or fourth day.

ascites, there appears to be no known treatment, which will restore the liver to its normal condition, or remove the obstruction to the portal circulation. In this stage the efforts of the physician are directed chiefly to the relief of symptoms, and the support of the patient's strength, in order that life may be prolonged to its farthest limit.

The diet should be nutritious but not stimulant, alcoholic stimulant should be entirely prohibited, or used only in cases of emergency and with great caution; the digestion should be improved by such tonics as Quinine, Gentian, Nitro-muriatic Acid and Strychnia; and the bowels should be kept open, whenever sluggish, by mild purgatives.

The ascites should be treated by diuretics and purgatives. A pill composed of half a grain of powdered digitalis, one grain and a half of powdered squill and two grains of blue pill, has been administered with benefit in cases of ascites, dependent upon hepatic disease, two or three times daily.

The diuretics and purgatives previously recommended in the treatment of cardiac disease may be employed. As a rule, however, the ascites slowly increases, and sooner or later it is necessary to resort to the operation of paracentesis; this should be delayed, as long as possible, for notwithstanding the temporary relief afforded, and the increased action of the kidneys, the fluid usually collects again rapidly, and the patient is exhausted by the great drain of albumen from the blood.

✓ 4.—*Dropsy arising from derangement or lesion of those organs which regulate the amount of the blood, as well as its constitution, by regulating the amount of the watery element, and by the elimination of excrementitious material.*

The kidneys not only regulate the amount of the watery element of the blood, but they also eliminate certain noxious substances, resulting from the metamorphosis of the tissues, and the chemical changes involved in the generation of the physical forces; any arrest or alteration or suppression of the action of these important organs, must, therefore, be followed by an accumulation of the watery element, and certain excrementitious

matters in the blood, derangement in the processes of absorption and exhalation, and disturbance of the sympathetic and cerebro-spinal nervous system.

It has been estimated upon reliable data, that the amount of water taken by an adult, in twenty-four hours, is, on an average, from one-half a fluid ounce to six-tenths or seven-tenths of an ounce for each pound avoird. of body weight; a man weighing 140 pound, will therefore take about seventy to ninety fluid ounces daily, and in ordinary diet about twenty to thirty ounces of this are taken in the so-called solid food, and the remainder is drank as liquid of some kind.

But the amount taken varies within wide limits in different circumstances, and from individual peculiarities; some men take only sixty ounces—others as much as one hundred and twenty, or even more; more water is consumed in a dry than in a moist climate, and during great exertion than during a period of rest. The mean amount of water, excreted through the kidneys by different male adults, varies from thirty five to eighty-one fluid ounces a day. The variations in the amount of water excreted by the kidneys, will depend upon the varying quantity introduced into the system, and upon the varying quantity eliminated by the skin, lungs and bowels.

It results from the preceding calculation, that the kidneys alone, eliminate during the year, in adult men, on an average, from eight hundred to eighteen hundred pounds of water. This great and continuous circulation of water through the living being is essential to the existence of life; and the performance of the various functions. Thus during the development of heat, and of the forces which work the animal machine, a portion of matter is chemically altered, decomposed and broken up into simpler forms; if these matters, as urea, uric acid and carbonic acid, and urate of ammonia, be not continuously removed, ill-health and finally death will result. To accomplish the continuous removal of the various useless and noxious substances, there is first, the almost universal solvent water; second, the circulatory apparatus, in which these substances are received and by which they are distributed; third special organs as the lungs and kidneys, which separate these matters from the blood, and

cast them out of the circle of living molecules. We are thus enabled to understand the reason, why general dropsy so rapidly and so surely supervenes, when the function of the kidneys is arrested or materially impaired.

An additional cause of dropsy is also known to exist in certain diseases of the kidneys: viz., the constant loss of albumen by transudation through the capillaries and excretory tubes of these organs, and the consequent derangement of the composition of the blood.

The diseases of the kidneys, which are almost universally attended with dropsy, are:

Congestion and acute inflammation of the kidneys, occurring as a sequel to scarlatina;

Acute nephritis caused by exposure to cold or wet;

Acute Bright's Disease ("croupous nephritis.") The course of this disease is always acute, and terminates either in recovery or death in most cases within a few days. It is a frequent complication of scarlatina. Post-mortem examination shows the kidneys to be congested, enlarged, with the urinary tubes filled up and occluded with an extravasation consisting of a coagulating exudation, containing epithelial cells and blood-corpuscles.

Chronic Bright's Disease ("parenchymatous nephritis.") The predisposing causes of Bright's disease, are cold; incautious exhibition of certain irritating diuretics, as cubebs, copabia and oil of turpentine; the abuse of ardent spirits; the alcohol eliminated with the urine acting locally upon the structures of the kidneys, the disease appearing almost as frequently among hard drinkers, as cirrhosis of the liver; tedious suppuration, accompanying caries and necrosis of the bones; the conditions of dyscrasia, occasioned by gout, rachitis, scrofula and malarial cachexia.

In the *so called* large white kidney, the cortex is pale and hypertrophied, and the uriniferous tubes crammed with granular epithelium. The large white kidney, is often merely an advanced stage of acute nephritis, but it may also be developed independently, as the result of chronic inflammation.

In the fatty kidney, the organ is large and pale, and the secreting cells loaded with oil; and the observations of patho-

logists render it probable, that this stage is preceded by the stage of exudation, characteristic of the large white kidney.

On the other hand, in the two common forms of chronic kidney disease, characterized by the contracted, granular, or gouty kidney, and the waxy or amyloid kidney, anasarca rarely shows itself, except shortly before the fatal termination.

Dropsy arising from renal disease, has the following distinguishing characters.

The anasarca of the subcutaneous areolar tissue, is general from the first, and most generally noticed first in the face; fluid is also always almost effused into the pleuræ, pericardium and peritoneum. The urine is scant, turbid or smoky, containing large quantities of albumen and sometimes blood; also renal epithelium and casts of the uriniferous tubes, varying in their character, according to the particular disease of the kidney. The countenance is swollen, heavy and pale, with a peculiar wax-like appearance. There is a tendency to nervous disturbances, convulsions, loss of memory, restlessness, delirium and coma. The digestion is deranged, with dry tongue, fœtid breath, and obstinate vomiting.

In the production of the anasarca, which accompanies and forms a prominent symptom in certain diseases of the kidney, several causes are in operation.

1st. In the acute affections, when dropsy comes on rapidly in a few hours, and is almost the first indication of the disease, this symptom is most probably produced by the retention in the blood-vessel system of the water urea and salts which should be eliminated in the form of urine. The anasarca comes on before any great amount of albumen has been thrown off from the blood by the kidneys; the blood is still rich in this constituent, and the change in the blood results rather from a relative increase in the watery element and the retention of those noxious compounds as urea, which should be continuously eliminated. The circulation of the blood through the capillaries, depends not alone upon the continuous action of the heart, but also upon the relations of the blood to the capillaries and to the organs and tissues through which it circulates; whatever therefore alters the constitution of the blood, deranges the capillary circulation,

by deranging the chemical affinities of the blood and tissues, and by deranging the action of those portions of the nervous system which preside over and regulate the amount and character of the capillary circulation. If water be injected into the blood-vessel system of living animals to an extent greater than that which may be readily and rapidly overcome by the kidneys, congestions of important organs, and serous transudations will speedily result. Whether the view be held that urea, as uræa acts as a poison, or it be maintained that the poisonous effects resulting from the injection or retention of this substance in the blood, be due to certain changes of chemical constitution in the urea, in consequence of which it is converted into a more active substance, viz., carbonate of ammonia; the cause of the anasarca is with equal justice traced in part, at least, to the paralyzing or deleterious influence of certain excrementitious matters upon the nervous system, heart, smaller arteries and capillaries.

2. In chronic Bright's Disease, in addition to the retention to a great extent of the watery element, and the consequent distention and relaxation of the swollen arterial branches and capillaries, and the retention of the poisonous urinous excrements, there is a continuous and great loss of albumen, which results in the production of a thin poisoned blood; and the consequent derangement of the nutrition circulation and functions of the organs and tissues. The researches of Gregory, Bostock, Christison, Andral and Gavarret, Becquerel and Rodier, have shown clearly, that a diminished proportion of albumen, and a consequent decrease in the density of the serum, constitute the leading changes of the blood in Bright's Disease, and from which may be deduced, in part at least, the pathogenesis of the dropsy developed under such circumstances. The diminution of the albumen, as well as the extent of the dropsy, bear a relationship to the duration of the disease, being much less in acute, than in chronic Bright's Disease. The diminution of the proportion of albumen in the blood, is scarcely perceptible in the acute stage, before the fourth day. A great change takes place in the blood, in chronic Bright's Disease; its mean density falling from 1060. to 1045.6; the globules fall likewise, whilst the fibrin is somewhat increased; the serum likewise undergoes a considerable

change, the mean specific gravity being represented by 1021; and the albumen being so much diminished, that its mean is represented by 55.

These propositions were discussed at length in the lectures by the bedside; it would be impossible to record this discussion at the present time, and we will conclude this subject, with the following cases illustrating in a striking manner, the production of dropsy by kidney disease.

CASE XXX. *Dropsy resulting from Bright's Disease of the Kidneys.*

Frederick Mayer; aged 30 years; height 5 feet 7 inches; weight 167 pounds; light sandy colored hair; blue eye fair complexion; native of Sweden; laborer by occupation; has generally enjoyed good health, with the exception of chills and fever, in the last two years.

Admitted March 21st, 1869, to Charity Hospital, ward 29; bed 422; oedema of the lower extremities; serotum and penis greatly distended with serous effusion; some effusion in abdominal cavity; face puffed; complexion sallow and wax-like; action of heart somewhat irregular, with a slight murmur in the first sound; slight cough attended with pain, referred to the præcordial region; cough most troublesome during the night; very slight expectoration; percussion sounds over lungs duller than in health, indicating oedema of those organs, with some pleuritic effusion. Patient has a large and well formed chest and there are no symptoms of tuberculo-sis. No enlargement of the heart was detected, and the cardiac murmur was referred chiefly to the anæmic state of the blood. Bowels regular. The diagnosis that this was a case of BRIGHT'S DISEASE, was still further confirmed by an examination of the urine. Heat and nitric acid showed the presence of albumen in the urine and casts of the urinary tubes of the kidneys were detected in moderate abundance under the microscope.

The bowels were opened freely with Compound Cathartic Pills, and the attempt was made to excite and increase the action of the kidneys, by the Cream of Tartar and Juniper Berry mixture previously described. The patient was directed to shake up the Cream of Tartar before using, so that the entire amount of one ounce, in a pint of the Infusion of Juniper Berries should be taken during each twenty-four hours. Under this treatment the urine increased in amount, the pulse became regular; the tongue cleaned; the bowels were moved regularly every day; and the patient became more active and cheerful, and there was a marked diminution of the anasarca.

April 3d.—Amount of urine passed f. ozs. lxiv; color pale; albumen abundant; numerous casts of tubuli uriniferi; the casts contained numerous oil globules, with degenerated cells and granular matter.

April 3d.—Amount of urine passed f. ozs. lxxvi; pale yellow; sp. gr. 1013; upon application of heat, the albumen, after coagulation, filled one-fifth of the test-tube.

April 4th.—Pulse 76; respiration 20; tongue clean, appetite good; bowels regular; sallow, unhealthy wax-like complexion. Amount of urine passed, f. ozs. lxxvi; sp. gr. 1013, amber colored; contains casts of tubuli uriniferi and albumen. Under the use of the Cream of Tartar and Juniper Berry tea the swelling is slowly diminishing, and the general condition of the patient improving.

April 5th.—Continues to improve slowly; the diuretics still keep up a full flow of urine, seventy-five fluid ounces having been passed during the last twenty-four hours; amber-colored, and containing granular casts of the tubuli uriniferi and albumen.

April 6th.—Amount of urine passed during twenty-four hours, f. ozs. lxxv; sp. gr. 1013; careful microscopical examination shows the presence of numerous small oil globules in the excretory cells of the cast-off tubuli uriniferi.

April 7th.—The amount of urine has slightly decreased, seventy fluid ounces having been discharged during the past twenty-four hours; but with this slight decrease, there is an elevation of the specific gravity to 1016; so that the whole amount of solid matter eliminated is probably greater than when the urine was somewhat more abundant, with a specific gravity of 1013.

The patient under the persistent use of diuretics and gentle purgatives, and simple but nutritious diet, slowly improved, and left the hospital at the end of April; the swelling had not entirely disappeared, but the patient left of his own accord.

My attention was again called to this patient in the month of August, 1869; he had returned to the hospital in a most distressing condition, with general anasarca, and the abdomen enormously distended with dropsical effusion. The serotum was so greatly distended that the skin burst, and from the cracks the serous fluid issued.

The patient was not then under my treatment, and I was not informed what measures were instituted for his relief, beyond the free use of squill and calomel. The patient died about the middle of September; no post-mortem was held as his friends claimed the body.

CASE XXXI.—*Dropsy resulting from Bright's Disease of the Kidney.*

John Shone. The patient gave the following history: Was admitted to Charity Hospital in 1858, with what he terms swamp fever, and was discharged in one week, after which time, was attacked with dropsy, and then entered the Marine Hospital, where he remained three weeks. The dropsy was relieved, and he enjoyed good health for the space of two years; at the end of which time he began to be afflicted with periodic headaches and vomiting.

Entered the Charity Hospital, on the first of February, 1869, and was treated for Albuminuria, and left of his own accord, on the 16th, and returned again on the 5th of March. The patient appears to have been benefitted by a mixture compound of Tincture of Sesqui-Chloride of Iron, Digitalis and Nux Vomica. Purgation is said to have given the greatest relief to the pain in the head and vomiting.

Came under my treatment in ward 18, bed 264, on the 2th March 1869. Age 36; height five feet eight and a half inches; weight in health one hundred and eighty-five pounds, at the present time one hundred and seventy-two pounds; has a large and well proportioned frame; color of hair red and sandy; eyes blue; complexion in health florid; native of Germany; seaman; has no hereditary tendencies as far as known.

Complexion sallow, and of a waxen hue; bowels constipated except when moved by purgatives; skin soft and moist; tongue red around the edge and tip; pulse regular; impulse of heart regular, but a murmur is heard over the region of the aortic valves synchronous with systolic impulse of the heart; respiration natural; temperature of axilla 98.5 F. The features are full, swollen and œdematous, and the cheeks hang in a dead flabby manner, and the expression of the countenance is heavy, though not disagreeable, and there is no expression of pain or distress. The cellular tissue generally of the body, and especially of the lower extremities, is œdematous and pits when pressed, and the pits formed by the pressure of the fingers remain for a great length of time. The urinary secretion is abundant and contains both albumen and casts. The patient suffers, periodically about every seven days, with attacks of severe headache and vomiting. The patient was placed upon the Cream of Tartar mixture as a diuretic, and the bowels kept open by the compound Jalap powder mixed in molasses.

April 7th.—In much the same state.

May 1th.—Has been troubled with dyspnoea at night, during the past week, and in addition to the Cream of Tartar mixture, has been put on a tonic composed of Huxham's Tincture of Bark and Tincture of Gentian. The tonic has improved his appetite and reduced the amount of urine.

May 15th.—Tincture of Sesqui-Chloride of Iron, in moderate doses, substituted for the Tincture of Bark and Gentian.

May 24th.—Suffering with headache and difficulty of breathing; urine have increased in quantity since the Tincture of Bark and Gentian has been omitted. The amount of albumen in the urine has decreased during the last month, averaging from one-seventh to one-tenth of the bulk of the urine, when coagulated and allowed to settle in the test tube.

May 31.—The condition of the patient much the same; his spells of vomiting have not recurred so frequently; suffers with considerable dyspnoea during the spells of headache and vomiting. The amount of albumen has decreased somewhat, ranging from one eighth to one-twelfth in moist volume. The patient is still taking the infusion of Juniper Berries and Cream of Tartar, together with the Tincture of Muriate of Iron.

June 10th.—Suffering with pain in head and dyspnoea. Urine passed in last four days contained more albumen, averaging about one-sixth in moist volume, and the amount of urine ranging from fifty to sixty-five fluid ounces.

June 22d.—Patient suffering greatly with dyspnoea; pale, anæmic; action of heart tumultuous; great difficulty in filling the lungs; the left lung is dull upon percussion, from the diaphragm or borders of the ribs upwards, to the nipple, between the fourth and fifth ribs. Upon careful examination of the patient in the sitting and recumbent posture, it is evident that a considerable amount of fluid has been effused into the pleural cavity of the left lung, compressing and embarrassing its action. Right lung more resonant than left, but there is evidently some effusion upon this side also. Dullness upon percussion, over region of heart, greater than normal. Action of heart irregular, and sounds indistinct; blowing sound with the first sound, whilst the second sound is prolonged. Scarcely effusion in abdominal cavity, with tenderness in epigastric and hypochondriac regions.

The following table will present in a condensed form some of the chief symptoms:

DATE.	Pulsa.	Respira- tion	Tempera- ture of Axilla.	CHARACTERS OF URINE.				REMARKS.
				Am't in 24 hrs. in ounces.	Sp.Gr.	Color.	Albumen.	
April 1st, 1869, 9 A. M.	72	18	98.5	68	1010	reddish	1-6	In bed and suffering with headache. Headache.
" 2d.	72	18	98.5	110	1010	yellow	2-3	
" 3d, 1869, 5 P. M.	72	18	99.5	110	1010	amber	2-3	
" 4th, 1869, 9 A. M.	70	18	98.	150	1.10	pale	2-3	
" 5th, "	70	18	99.5	45	1.14	yellow	1-3	
" 6th, "	80	...	99.	72	1.13	...	1-7	
" 7th, "	82	...	99.2	75	1.12	...	...
" 8th, "	82	...	98.5	75	1.12	...	...
" 8th, 1869, 6 P. M.	86	...	100.5	100	1010	During night head- ache.
" 9th, 1869, 9 A. M.	83	...	100.	100	1010	...	...
" 10, "	88	22.	99.5	83	1010	...	...
" 12-13	88	...	99.	80	1.10	...	...
" 14th, 9 A. M.	90	...	99.	85	1010	...	1-7	
" 15 and 16.	90	...	99.	75-86	1.10	...	...
" 17-20.	80	...	99-100	65	1.10	...	...
" 21st, 9 A. M.	91	...	99.2	50	1.14	...	1-3	On 20th headache and vomiting. Do do Do do
" 22d, "	96	...	100.7	60	1010	...	1-7	
" 24-25, 9 A. M.	80	...	10.5	60	1010	...	...
" 26th, "	82	...	100.5	80	10.9	...	...
" 27-May 1st.	80	...	100.5	100	10.9	Headache.
May 2d-9th.	82	...	100	70	1010	...	1-7	Headache and dysp- noea.
" 11-15	82	...	99.5-10.	35-75	1010	...	1.7-1.10	
" 16-24.	82	...	99.	40-60	1010	...	1.8-1.12	
" 25-30	80	...	99.	35-65	101-1.12	...	1.8-1.12	
June 6th.	80	...	99.5	40-65	1012	...	1.8-1.12	

In conjunction with Dr. B. A. Pope, this patient, together with several other cases of Bright's Disease, under my treatment were subjected to a careful examination with the ophthalmoscope; the characteristic alterations of the retina indicative of Bright's Disease, were discovered, although they were absent in other cases of this disease; thus showing that the ophthalmoscope is incapable of indicating the disease in all cases.

This patient left the ward for another on the 22d of June, and passed from my care and treatment.

I was informed that after the transfer, the diuretics and purgatives were discontinued, and the dropsy rapidly increased, and the patient died about the middle of July.

In this case, the dropsical effusion was restrained within certain limits by the judicious use of diuretics and purgatives, and as soon as they were discontinued death speedily ensued.

CASE XXXII.—*Dropsy Resulting from Bright's Disease of Kidney.*

Charles Daley; age 60, height 5 feet 5 inches; weight in health 140 lbs; left leg shorter than right, from having had compound fracture of both tibia and fibula; the patella is now quite prominent; black hair, hazel eye, florid complexion in health; native of Ireland; laborer; no constitutional tendencies as far as could be gathered from statements concerning the health and diseases of his relatives; has never had syphilis or scrofula; has been in the habit of drinking whisky freely, at times to excess, for forty years; has enjoyed pretty good health, with the exception of a spell of chill and fever, about five years ago.

Was admitted to the Charity Hospital on the 15th March, 1869, ward 29, bed 49, with general anasarca and with albuminous urine. The anasarca appears to have come on gradually. Complexion sallow and of a waxy appearance. Features swollen. Trunk and extremities oedematous; pressure causes pits which disappear very slowly. Appetite and spirits very good, but muscular and nervous forces depressed. Diagnosis, Bright's Disease of the kidneys.

The patient was placed upon the Cream of Tartar and Juniper Berry tea, Tincture of the Sesqui-chloride of Iron, and nutritious diet, and the bowels were kept gently open by saline purgatives.

On 30th—Patient appears to be improving; the amount of urine has increased; the complexion is somewhat clearer and the anasarca has disappeared to a considerable extent. Weight at the present time about one hundred and twenty pounds. Patient cheerful, with a good expression of eyes, but is very weak and confined to bed most of the time. Bowels regular; skin softer and more moist. Tongue natural. Urine loaded with albumen and casts.

The following table will exhibit some of the more prominent symptoms:

DATE.	Pulse.	Respiration.	Temperature of Hand.	Temperature of Axilla.	Complexion.	Decubitus.	CHARACTERS OF URINE.			
							Am't of Urine in 24 hours.	Specific Gravity.	Color of Urine.	Abnormal Constituents.
April 1st, 1869, 9 A. M.	75 18	18	98		Sallow.	Confined	52	10° 8	Pale.	Albumen.
" 2d, "	75 18	18	98		Waxy	to bed.	34	1010	Yellow	Cast of Tubu.
" 3d, "	75 18	83° 5	97 5		features		30	1 10	"	li Uriniferi.
" 3d, " 5 P. M.	75 18	18	99 5		swollen	Lies on back.	30	1010	"	albumen.
" 4th, " 9 A. M.	98 25	18	98				32	1010	"	"
" 5th, "	"	"	97 5		"	"	40	1 10	"	"
" 6th, "	"	"	97 5		"	"	38	1 08	"	"
" 7th, "	"	"	"		"	"	35	1010	"	1-6
" 8th, " 6 P. M.	"	"	106 5		"	"	35	"	"	1-6
" 9th, " 9 A. M.	"	"	98 5		"	"	8	1016	"	1-3
" 11th, "	98 26	18	98 5		"	"	11	1 25	"	5-6

April 10th.—Lungs dull upon percussion; and there is a decided increase of heat, every day towards night. The urinary secretion progressively decreased, and with this decrease, the swelling increased in the cellular tissue and abdominal cavity.

On the 12th of April the patient got out of bed, and passed a portion of the day on the gallery, in the rear of the ward. The day was damp, rainy and cold. From this exposure the patient contracted a severe bronchitis, which seemed to prostrate him greatly, and he gradually grew worse, and died on the 5th of May. Death was preceded by convulsions and coma.

The post-mortem examination revealed adhesions of the liver, stomach, heart and lungs to their respective serous cavities and membranes; the liver was congested; spleen normal; lungs contained milary tubercles; kidneys in a state of fatty degeneration.

CASE XXXIII.—Dropsy resulting from Bright's Disease of Kidney.

John Crowley; seaman; native of Pennsylvania; age 27; no hereditary tendencies can be traced; had syphilis twelve years ago, the disease is said to have yielded readily to treatment, and disappeared in three weeks; well made, muscular man, with full well developed chest; blue eyes; light yellow hair; during his sea-faring life has been in the habit of using strong alcoholic stimulants freely; during a portion of his life has acted as fireman on board steamship, and while performing his duty, would frequently be exposed to sudden changes of temperature and to wet and cold, and at such times would indulge freely in alcoholic stimulants. Enjoyed good health up to the last twelve months, when he was shipwrecked, and remained in the water some nine hours, and contracted a severe cold, from the effects of which the patient has suffered in the way of a slight cough, up to the present time.

Entered Charity Hospital, ward No. 13, bed 199, December 8th, 1869. Features of face swollen; slight serous effusion in abdominal cavity; lower extremities cedematous, pitting on pressure; scrotum swollen; complexion has a slow, wax-like appearance; urine albuminous, and under the microscope loaded with casts of the tubuli uriniferi. Upon auscultation, sub-crepitant rales are heard in the anterior portion of the right lung, referred to chronic irritation of the bronchial tubes; no signs of tubercular deposit were discovered. The heart sounds are not altogether normal, and the soft murmur was referred to the anæmic condition of the blood. Liver slightly enlarged. Excretion of kidneys augmented; the amount of urine passed daily ranging from eighty-eight to one hundred and eleven fluid ounces of low specific gravity, ranging from 1008 to 109. Patient says that during the last three weeks, he has been easily fatigued, and during the last twelve months has suffered with pain in his back in the region of the kidneys, but has been following his usual occupation to within the last month. Temperature of axilla 98° 8 F.; pulse 72; respiration 18. Amount of urine passed during the last 24 hours 88 f oz.; sp. gr. 1009. When the urine was subjected to the action of heat and nitric acid, the moist coagulated albumen filled one-fifth of the test-tube. The patient was placed upon the Cream of Tartar and Juniper Berry tea, Tincture of Sesqui-chloride of Iron and simple but nutritious diet.

December 18th.—The apex beat of the heart is manifestable to the left of nipple; percussion also renders it probable that the left ventricle is hypertrophied to some extent. Auscultation over region of heart reveals a soft murmur, heard loudest over base of the heart, during second sound; it is also heard at apex with loss of murmur over body of heart, the sound being transmitted along arch of aorta, but not from apex towards spinal column. The veins of the upper portion of the chest are somewhat enlarged and congested. Patient suffers with constant oppression of breathing, after exertion. The respiration is prolonged with considerable roushness, with a few sibilant rales. The lungs are duller upon percussion than in health, and there is some effusion in both pleura. The dullness upon percussion appears to be due in part, also especially in the infra-clavicular and clavicular regions, to oedema of the pulmonary tissue. The cardiac murmur is probably due not only to the anæmic state of the blood, but also to fatty or calcareous degeneration of the aortic valves, permitting

some regurgitation of blood into the left ventricle. The urine contains albumen in abundance, with casts of the tubuli uriniferi. The amount of urine passed during the twenty-four hours, has ranged from sixty to one hundred fluid ounces. The temperature of the axilla ranged in the morning from 99° to 100° F., and in the evening from 99.5 to 101°.

Under the use of the Diuretics and gentle purgatives, the anasarca has slowly diminished and the patient appears to be more comfortable. There are times however, when the nervous system is much disturbed; (headache, restlessness and dilatation of the pupils), apparently from the retention of the constituents of the urine.

Dec. 24th.—In addition to the preceding treatment, the warm bath, at bed-time; and the steam bath (prepared by heating a brick and pouring water over it while under the bed-clothes), were ordered; and as a tonic and gentle stimulant, a tablespoonful of Huxham's Tincture of Bark, three times a day, one hour before each meal.

Dec. 21st.—In order still further to act upon the skin and kidneys, Syrup of Squills and Syrup of Ipecac were ordered in doses just sufficient to induce nausea, but not vomiting.

Dec. 31st.—During the past twenty-four hours, has been affected with vomiting; pupils greatly dilated, with dull pain in head, lethargy of intellect and imperfect vision. At times one pupil is dilated and the other contracted.

January 3d.—Vomiting and dilatation of pupils continue.

January 10th.—Patient feels much better than he did a week ago, has ceased to vomit and the pupils are not dilated.

January 13th.—Condition appears to be improved, the oedema has almost entirely disappeared; the lungs also are much less dull upon percussion. The same treatment has been continued up to the present time.

January 24th.—Patient has not been doing so well during the past five days. The cream of tartar mixture has disagreed with his stomach, and it has been necessary to intermit the diuretic. Pupils dilated. Oedema of extremities increasing. The cessation of the diuretic medicine has been attended with a marked diminution of urine, only twenty-nine fluid ounces, of low sp. gr. (10.0), were excreted during the past twenty-four hours. The amount of albumen in the urine has also increased, and it now reaches one-fourth of the volume in the test-tube, when heat is applied. The bowels were opened by ten grains of the Extract of Rhubarb, and on the following morning the patient appeared to be less lethargic and more cheerful, and the pupils were not so widely dilated.

January 26th.—Patient rested badly during the night; complains of pain in the lower part of the abdomen; pupils of eyes greatly dilated; nervous and restless, oppression in breathing; stomach very irritable, obstinate vomiting whenever the cream of tartar mixture is administered. Four grains of the Iodide of Potassium were substituted, three times a day.

January 28th.—Patient rested badly and was disturbed by frightful dreams. Pupils still more dilated; stomach irritable. Oedema increasing.

January 29th.—Rest imperfect and troubled; pupils dilated; patient feels very weak and depressed.

February 1st.—Cough and oppression of breathing increasing; patient weak and depressed and nervous; can retain but little upon his stomach from the nausea and vomiting. It is impossible to administer sufficient medicine to act upon the kidney which secretes not one-half the former amount of urine. The urine is not only diminished in amount, but it is of low sp. gr. (1019) and loaded with albumen and casts. It is evident that the constituents of the urine are but partially eliminated. The warm bath and the hot air bath fulfil the office of the Diuretic Mixture but imperfectly.

February 8th. The condition of the patient has continued steadily to grow worse, the nervous symptoms increasing and the anasarca in like manner augmenting. Patient very weak, unable to get out of bed, and passes his urine in small quantities and involuntarily. The patient lies in a dull, lethargic state, with pupils widely dilated; as if under the influence of some powerful narcotic poison. Urine scant, and loaded with albumen and urinary casts.

February 9th.—Continues to grow worse, and more feeble; is not able to move in bed without suffering great pain, has been vomiting almost incessantly during the past twenty-four hours, the fluid ejected resembles milk. Urinary excretion suppressed, bowels constipated, constant hiccough.

February 10th.—Vomiting continues, but the matters ejected have changed color being green instead of white. Pupils greatly dilated, muscles of extremities trembling, intellect dull and lethargic when aroused appears to be under the influence of some powerful poison. The slightest touch upon the surface causes pain. The patient continued in this state with vomiting and hiccough and suppression of urine, and died February 11th.

The following table presents the changes of the pulse, respiration, and temperature and the amounts of urine.

Pulse, Respiration and Temperature, and amounts and Sp. Gr. in Urine in Case of John Crowley—Bright's Disease.

Date.	Hour of Day.	Pulse.	Respiration.	CHARACTER OF URINE.				CHARACTER OF URINE.			
				Temperature of Axilla.	Amt of Urine in 24 hours	Sp Gr. of Urine.	Albumen and Urinary Casts.	Temperature of Axilla.	Amt of Urine in 24 hours	Sp Gr. of Urine.	Albumen.
1869 Dec.	9 a. m.	72	18	98.8	88	1009	1.5 Urinary Casts.	98.5	50	1010	1.4 Casts.
	9 7 p. m.	73	18	101.4	88	1009	do	99.6	53	1010	1.4 do.
	10 9 a. m.	73	18	99.4	88	1009	1.5	99.5	67	1010	1.4 do.
	10 7 p. m.	73	18	99.4	88	1009	1.6	96.5	58	1010	1.2 do.
	11 9 a. m.	70	17	99.4	88	1009	do	100.	29	1010	1.4 co.
	11 7 p. m.	91	18	99.8	111	1008	do	100.	31	1008	1.4 do.
	12 9 a. m.	75	20	99.4	100	1008	do	100.	31	1008	1.4 do.
	12 7 p. m.	88	20	100.2	103	1008	do	100.	37	1010	1.3 do.
	13 9 a. m.	76	19	98.5	103	1008	1.6	99.	37	1010	1.3 do.
	13 7 p. m.	72	17	100.8	65	1008	1.4	99.	36	1010	1.3 do.
	17 9 a. m.	72	17	99.	100	1008	do	100.	40	1010	1.2 do.
	18 9 a. m.	72	17	100.8	75	1008	do	100.	34	1010	1.2 do.
	18 7 p. m.	72	17	99.4	75	1008	do	100.	30	1010	1.2 do.
	20 9 a. m.	80	17	100.5	75	1008	1.3	100.	26	1010	1.2 do.
	20 7 p. m.	80	17	99.5	75	1008	do	100.	30	1010	1.2 do.
	21 9 a. m.	80	17	100.	68	1008	1.2	101.	29	1010	1.2 do.
	21 7 p. m.	80	17	99.5	65	1008	do	101.	30	1010	1.2 do.
	22 9 a. m.	80	17	99.7	65	1008	do	101.	30	1010	1.2 do.
	22 7 p. m.	80	17	99.	70	1008	do	100.	30	1010	1.2 do.
	23 9 a. m.	80	17	99.8	70	1008	do	100.	30	1010	1.2 do.
	23 7 p. m.	100	20	100.	50	1008	do	100.	36	1010	1.2 do.
1870 Jan.	27 9 a. m.	90	20	100.5	50	1008	do	100.	32	1010	1.2 do.
	28 7 p. m.	95	20	99.9	42	1008	do	101.	34	1008	1.2 do.
	29 9 a. m.	90	20	101.	32	1008	do	101.	34	1010	1.2 do.
	30 9 a. m.	90	20	101.	32	1008	do	101.	34	1010	1.2 do.
	31 9 a. m.	90	20	101.	33	1008	do	101.	34	1010	1.2 do.
	31 7 p. m.	90	20	101.	33	1008	do	101.	34	1010	1.2 do.
	3 9 a. m.	90	20	99.2	23	1008	do	101.	34	1010	1.2 do.
	3 7 p. m.	83	20	99.2	23	1008	do	101.	34	1010	1.2 do.
	4 9 a. m.	83	20	99.2	38	1008	do	101.	34	1010	1.2 do.
	4 7 p. m.	80	20	99.5	38	1008	do	101.	34	1010	1.2 do.
	5 9 a. m.	80	20	99.5	38	1008	do	101.	34	1010	1.2 do.
	5 7 p. m.	78	20	99.5	38	1008	do	101.	34	1010	1.2 do.
	6 9 a. m.	78	20	99.5	38	1008	do	101.	34	1010	1.2 do.
	6 7 p. m.	78	20	99.5	38	1008	do	101.	34	1010	1.2 do.

A number of other cases of Bright's Disease have been under observation during our medical service in the Charity Hospital, and careful post-mortem examinations were made in the presence of the Medical Class; and it was observed that the degeneration of the kidneys was frequently associated with fatty degeneration of the liver, heart and arteries. These diseases occur most commonly in the ill-fed and ill-conditioned laborers and drunkards, who consume the alcoholic stimulants undiluted, and to a great extent substitute them for more substantial food. Fatty degeneration, cirrhosis of the liver and Bright's Disease of the kidney, appear therefore to depend in a measure upon similar causes.

It is also worthy of note, that the temperature in this class of diseases, does not rise to the height that it does in phthisis and idiopathic fevers; but still the temperature of the trunk is elevated above that of health, and is also subject to morbid perturbations.

The truth of this observation might be illustrated by numerous observations upon various diseases, recorded under our direction, but these must be deferred for the present.

We will conclude these observation on the different causes of dropsy, with some general observations on the

Treatment of Dropsy arising from Bright's Disease of the Kidneys.

There are so many minute yet important modifications, depending upon constitutional peculiarities, habits of life, and special conditions of age, climate, and inherited or acquired constitutions, that it is difficult to describe in detail, the treatment of any disease; and the attempt is especially difficult in diseases of the kidney. We shall therefore attempt nothing more, than the indication of those general principles of treatment which should be kept at all times clearly in view. The student should ever remember, that no description however minute, will relieve him of the duty of studying each case carefully by the bed-side, and of adapting his remedial agents and measures to the causes of the disease, and the symptoms and the natural or acquired constitution of each patient.

In chronic disease of the kidneys, it is almost always necessary

to continue the plan of treatment persistently for a length of time; and without general principles, only disappointment will result from the frequent change of remedies. In this class of diseases, it is especially necessary that we should not only remove the secondary effects of the diseased action, but also correct, as far as possible, the morbid action of distant organs, and relieve the kidneys as far as possible, by the supplementary function imposed upon them. The supplementary actions of the skin and gastro-intestinal membrane, are of the most important character, and the physician should be careful lest convulsions and coma, and even death may follow the sudden and injudicious arrest of the vomiting and diarrhoea, by which the constituents of the urine are eliminated and cast out of the system. It should be borne in mind also that the effusions in diseases of the kidneys, are not simple in their character as in cardiac and hepatic dropsy, but they contain urea and other constituents of the urine; and the very act of effusion may be a process of purification of the blood. Hence even bandages to the lower extremities should be applied with caution or wholly abandoned, as tending to throw the effusion upon important internal organs; and for the same reason, the recumbent position should not be retained too long, and the patient should take moderate exercise, as by this means the internal organs, and especially the kidneys, are relieved, to a certain extent, from the dropsical effusion.*

‡ As the skin and even the lungs may act as supplementary organs to the kidneys, special attention should be paid to the clothing and to the surrounding temperature and hygrometric condition of the atmosphere.

The amount and character of the urinary secretion may also be greatly influenced by *diet*. It is well established that an exclusive diet of meat greatly increases the nitrogenized elements (urea and uric acid etc.) of the urine, whilst an exclusive farinaceous diet greatly diminishes these constituents of the urinary excretion. The importance of attention to the diet is placed in a clear light, when the relations of the retained urea to the nervous phenomena and convulsions characteristic of Bright's Disease are considered.

Alcoholic stimulants, and stimulating diuretics not only in-

duce the disease, but when persisted in, they aggravate the symptoms and accelerate its progress. Alcoholic stimulants should be withdrawn at the earliest possible moment.

In the acute form of Bright's Disease dependent upon the action of cold or the poison of scarlet fever, the bowels should be kept freely open by saline purgatives, and the congestion of the kidneys relieved as far as possible, by cut cups and leeches over the region of the kidneys, and the function of the skin should be freely excited by the warm bath, hot air bath, vapor bath, and warm clothing. As purgatives, the compound jalap powder, or epsom salts, or a combination of carbonate of magnesia and epsom salts (magnes. carb. gr. vi; magnes. sulph. 3i to 3iss; aquæ menth. pip. f. 3iss; mix; administer every four or six hours), may be employed. As a general rule, mercurials should be avoided in both acute and chronic Bright's Disease.

The diet should be of the severest antiphlogistic character, composed chiefly of farinaceous substances; for in the acute form, the blood is not sufficiently deteriorated to demand rich nitrogenized food, and but little diet is wanted.

Stimulating diuretics are contra-indicated, and in order to excite the action of the kidneys, and to promote also the absorption of the dropsical effusion, such diuretics as the Acetate of Ammonia, and Bitartrate and Tartrate of Potassa, and the Seltzer and Vichy waters may be employed.

When convulsions and coma supervene in consequence of the retention of the urea in the blood, local depletion by leeches and cupping to the temples, and in some cases general blood-letting, and blisters to the shaven scalp, are in conjunction with the hot bath and brisk purgation with elaterium and brisk hydragogue cathartics the main measures to be instituted.

In the treatment of the chronic form of Bright's Disease, the patient should be required to dress warm, with flannel next the skin, he should occupy a dry and warm dwelling, and avoid all sudden changes of temperature, and all exposure to the night air, or to cold damp weather. When the circumstances will permit of it, the patient should remove to a warm moist climate, for by this change, not only is the function of the skin excited to increased activity, but the changes of the body are less, and the amount of work performed by the kidneys necessarily diminished.

Owing to the constant loss of albumen from the blood, as well as to the poisonous action of the constituents of the urine, it is necessary that the diet should be more nutritious than in the acute form.

The German physicians have claimed important results in the treatment of chronic Bright's Disease, by confining the patients to an exclusive diet of milk, without any medicine whatever. In this plan of treatment, from five to six pints of *good undiluted* cow's milk were administered daily; and some of the patients, who prior to the treatment, had been in the most wretched condition, got rid of their dropsy, recovered an appearance of health, and regained so much of their strength, as to be able to resume their business and even to perform hard labor.

From the active measures should be excluded blood letting and mercurials; and reliance, for the relief of the dropsy especially, and the elimination of the deleterious materials from the blood, should be placed upon the judicious establishment of diaphoresis, diuresis and purgation.

One of the most efficient modes of establishing active diaphoresis, as previously indicated, is by the daily use of the hot bath followed by sweating for one or two hours in woolen blankets.

Stimulating diuretics should be avoided on account of their irritating action on the kidneys; such diuretics as the Tartrate and Bitartrate of Potassa, may be employed persistently for a great length of time and as far as my experience extends, if administered in the manner previously recommended, their action is always attended with benefit and relief of the dropsical symptoms.

Of course, in those cases where the stomach is so irritable that neither the Cream of Tartar nor any other diuretic is borne, there is little or no chance of recovery.

The dropsy may also be controlled, and to a certain extent, relieved, by the judicious employment of such purgatives as Elaterium, Colocynth; Compound Powder of Jalap; Cream of Tartar and Sulphur; Epsom Salts and Glauber Salts.

It should be borne in mind that the duration and results of Bright's Disease, depend upon the extent to which the kidneys have been altered; the most frequent termination being death, caused either directly by the affection of the kidney, or by

intercurrent inflammation; complete recovery may take place, but it is very rare; some cases run their entire course in a period of from six weeks to three months, and in others the malady continues for years. Although in most cases, a cure may not be effected, the physician may accomplish much good by relieving the symptoms and prolonging life.

It is important therefore in a disease of such a chronic nature, that the continual tendency to the deterioration of the blood, should be counteracted by the use of Iron and Quinine, and nutritious diet.

Tabular Summary of Cases treated in Charity Hospital, Service of JOSEPH JONES, M. D., during Fifteen Months, 1st January, 1869, to 1st April, 1870; arranged according to the "Nomenclature of Diseases of the Royal College of Physicians of London."

DISEASES.	Admitted.	Discharged Cured or Relieved.	Died.	Remaining or Transfer'd.
General Diseases.				
Small Pox.....	1	...	1	...
Measles.....	4	4	...	...
Typhoid Fever	3	3	...	...
Yellow Fever	1	1	...	...
Malarial Intermittent Fever.....	103	97	...	6
" Remittent "	12	12	...	...
* " Congestive "	2	...	2	...
Chronic Malarial Poisoning.....	8	8	...	...
Mumps	1	1	...	...
Erysipelas	1	1	...	...
Acute Rheumatism.....	4	3	...	1
Gonorrhœal Rheumatism.....	2	1	...	1
Muscular "	5	5	...	...
Chronic "	32	20	...	12
" Gout	1	...	...	1
Primary Syphilis.....	28	26	...	2
Secondary "	61	45	...	16
Medullary Cancer	2	...	...	2
Epithelial "	1	...	...	1
Osteoid "	2	...	2	...
Scirrhus "	2	...	1	1
Scrofula	6	1	2	3
Scrofulous Ophthalmia	2	2	13	...
Phthisis Pulmonalis	63	34	...	16
Purpura	1	1	...	...
Scurvy.....	2	2	...	...
Anasarca, effect of action of Malaria.....	2	2	...	...

* The two cases of congestive or pernicious fever were brought into the Hospital comatose and moribund, and died within eighteen hours. Quinine and stimulants had no perceptible effect.

DISEASES.	Admitted.	Discharged Cured or Relieved.	Died.	Remaining or Transfer'd
Local Diseases.				
DISEASES OF THE NERVOUS SYSTEM.				
<i>Diseases of the Brain and its Membranes—</i>				
Meningitis.....	1	...	1	...
Apoplexy.....	1	...	1	...
Sun-stroke.....	2	1	1	...
<i>Diseases of the Spinal Cord and its Membranes—</i>				
Spinal Meningitis	1	1	...	...
Spinal Atrophy.....	1	1	...	...
<i>Diseases of the Nerves—</i>				
Hemiplegia	2	...	...	2
Paraplegia.....	5	1	1	3
Lead Palsy.....	1	1	...	...
<i>Functional Diseases of the Nervous System—</i>				
Infantile Convulsions.....	1	...	1	...
Epilepsy.....	5	5	...	...
Chorea	1	1	...	...
Facial Neuralgia.....	1	1	...	...
Brow Ague (Hemicrania).....	3	3	...	...
Sciatica	1	1	...	...
Delirium Tremens	5	5	...	...
<i>Disorders of the Intellect, Brain and Spinal Cord.</i>				
Mania; Dementia and General Paralysis of the Insane	2	...	2	...
Chronic Dementia and Paralysis.....	1	...	...	1
<i>Diseases of the Eye—</i>				
Conjunctivitis	1	1	...	...
Purulent Ophthalmia.....	1	1	...	...
Serofulous Ophthalmia	1	...	...	1
Gonorrhœal Ophthalmia	2	2	...	...
Opacity of Cornea.....	3	1	...	2
Syphilitic Iritis	3	2	...	1
Serofulous Iritis	2	...	...	2
Cataract	4	...	...	4
Blindness.....	6	2	...	4
<i>Diseases of the Nose—</i>				
Ozæna.....	1	1	...	...
<i>Diseases of the Ear—</i>				
Otorrhœa.....	1	1	...	...
DISEASES OF THE CIRCULATORY SYSTEM.				
<i>Diseases of the Heart—</i>				
Valve Disease—Mitral	3	3	...	...
Aortic	1	1	...	...
Fibrous Concretion in Cavities of Heart.....	1	...	1	...
<i>Diseases of the Muscular Structures of the Heart</i>				
Hypertrophy and Dilatation.....	6	1	2	3
Dilatation.....	2	1	1	...
Hypertrophy, Dilatation & Fatty Degeneration	3	1	2	...
Hypertrophy, Dilatation and Valvular Disease.	2	...	1	1
Palpitation and irregular action of Heart.....	2	2	...	...

DISEASES.	Admitted.	Discharged Cured or Relieved.	Died.	Remaining or Transfer'd.
Local Diseases—Continued.				
<i>Diseases of the Bloodvessels—</i>				
Aneurism of Ascending Aorta, Fatty and Calcareous Degeneration and Dilatation of Heart	1	...	1	...
Aneurism of Ascending Aorta.....	1	...	1	...
Aneurism of Ascending Aorta & arch of Aorta	2			2
<i>Diseases of Absorbent System—</i>				
Non-Syphilitic Bubo.....	1	1	...	...
Scrofulous Disease of Glands.....	1	...	...	1
<i>Diseases of the Supra-Renal Capsule—</i>				
Addison's Disease.....	1	...	1	...
DISEASES OF THE RESPIRATORY SYSTEM.				
<i>Diseases of the Trachea and Bronchi—</i>				
Acute Bronchitis	8	3	...	...
Chronic Bronchitis	8	7	1	...
Asthma	1	1	...	...
<i>Diseases of the Lungs—</i>				
Pneumonia	7	7	...	...
Vesicular Emphysema	1	1	...	...
<i>Diseases of the Pleura—</i>				
Chronic Pleurisy	1	1	...	...
Hydrothorax.....	1	1	...	...
DISEASES OF THE DIGESTIVE SYSTEM.				
<i>Diseases of Fauces and Palate—</i>				
Tonsilitis	1	1	...	...
<i>Diseases of the Stomach—</i>				
Dyspepsia.....	1	1	...	...
<i>Diseases of the Intestines—</i>				
Acute Dysentery	4	1	2	1
Acute Diarrhoea.....	3	3	...	...
Chronic Diarrhoea	3	1	...	2
Chronic Dysentery and Diarrhoea	23	6	10	7
Constipation.. ..	1	1	...	...
Hernia	1	1	...	...
<i>Diseases of Rectum and Anus—</i>				
Cancer of the Rectum.....	1	...	1	...
Hæmorrhoids	5	5	...	...
<i>Diseases of the Liver—</i>				
Hepatitis	1	1	...	...
Cirrhosis of Liver with Ascites.....	1	...	1	...
Fatty Liver.....	2	2	...	...
Amyloid Disease of Liver.....	1	1	...	...
Jaundice	2	2	...	...
<i>Diseases of the Spleen—</i>				
Hypertrophy of Spleen.....	1	1	...	...
Leucocythemia.....	1	...	1	...
<i>Diseases of the Peritoneum—</i>				
Peritonitis.....	1	1	...	...

DISEASES.	Admitted.	Discharged Cured or Relieved.	Died.	Remaining or Transfer'd
Local Diseases—Continued.				
DISEASES OF THE URINARY SYSTEM.				
<i>Diseases of the Kidney—</i>				
Chronic Bright's Disease.....	7	3	3	1
<i>Diseases of the Bladder—</i>				
Chronic Cystitis.....	1	1	...	...
<i>Diseases of the Male Urethra—</i>				
Stricture.....	2	2	...	...
Urinary Fistula.....	1	...	...	1
DISEASES OF THE GENERATIVE SYSTEM.				
<i>Diseases of the Male Organs of Generation—</i>				
<i>Diseases of the Penis—</i>				
Gonorrhœa.....	6	6	...	...
<i>Diseases of Tunica Vaginalis—</i>				
Hydrocele.....	2	2	...	...
<i>Diseases of Testicle—</i>				
Orchitis.....	4	4	...	...
Enlargement and Induration of Testicles.....	1	1	...	...
<i>Diseases of the Female Organs of Generation—</i>				
<i>Diseases of the Uterus—</i>				
Cancer of Uterus.....	1	1	...	...
Fibrous Tumor of Uterus ..	2	1	1	...
Prolapsus.....	2	1	...	1
<i>Diseases of the Vagina—</i>				
Gonorrhœa.....	5	5	...	...
Vesico-Vaginal Fistula.....	1	1	...	...
Recto-Vaginal Fisula.....	2	1	...	1
<i>Functional Diseases of Female Organs of Generation—</i>				
Amenorrhœa.....	1	1	...	...
<i>Disorders of the Female Generative System—</i>				
Metritis.....	2	2	...	...
Abortion.....	3	3	...	...
DISEASES OF ORGANS OF LOCOMOTION.				
<i>Diseases of Bones—</i>				
Scrofulous Disease of Bones.....	1	1	...	...
Necrosis.....	3	2	...	1
<i>Diseases of Joints—</i>				
Synovitis.....	1	...	...	1
<i>Diseases of the Spine -</i>				
Caries and Necrosis with Curvature.....	1	...	...	1
Psoas and Lumbar Abscess.....	2	1	...	1
Lateral and Anterior Curvature.....	1	...	...	1
DISEASES OF CUTANEOUS SYSTEM.				
Urticaria.....	1	1	...	...
Psoriasis.....	2	2	...	...

DISEASES.	Admitted.	Discharged Cured or Relieved.	Died.	Remaining or Transfer'd
Local Diseases—Continued.				
INJURIES AND ULCERS.				
Burns and Scalds	6	6	...	...
Ulcers.....	17	15	...	2
Amputation for Ulcer of Foot	2	1	...	1
Felon	3	3	...	...
Contusion of Head	3	3	...	...
Scalp Wound of Head	3	3	...	...
Concussion of the Brain	1	1	...	...
Fracture of Rib	1	1	...	...
Contusion of Back.....	1	1	...	...
Sprain of Back.....	1	1	...	...
Contusion of Abdomen	1	1	...	...
Incised Wound of Shoulder	1	1	...	...
Fracture of Acromion Process of Scapula	2	2	...	...
Fracture of Fore Arm	1	1	...	...
Incised Wound of Thigh.....	2	2	...	...
Dislocation of Femur.....	1	...	...	1
Fracture of Femur	1	...	1	...
Gun-shot Wound of Thigh	1	1	...	...
Incised Wound of Leg.....	2	2	...	...
Incised Wound of Knee	1	1	...	...
Contusion of Lower Extremities.....	4	4	...	...
Conditions not necessarily associated with General or Local Diseases.				
Purpuration	14	11	1	2
Still-born	3	...	3	...
Old Age.....	16	...	4	12
Debility	4	4	...	...
Total.....	660	467	67	126

The cases treated, embraced white males, colored males and colored females.

The heaviest mortality occurred amongst the colored females; thus the average mortality in all cases treated, was about ten per cent.; whilst the mortality among the colored females was 17.5 per cent. Nearly one-fifth of all the cases, entered upon the sick reports of the colored females, were primary and secondary syphilis.

The diseases causing death, stand in the following order, according to the rate of mortality, as compared to the whole

number of deaths: Phthisis Pulmonalis, 13 deaths, or 19.4 per cent, of deaths from all causes: Diarrhœa and Dysentery, 12 deaths, or 17.9 per cent. of deaths from all causes; Diseases of the Circulatory System, 9 deaths, or 13.4 per cent. of all deaths; Diseases of the Nervous System, 7 deaths, or 10.4 per cent. of all deaths. These diseases alone caused 41 deaths out of 67; whilst Small Pox, 1; Congestive Fever, 2; Osteoid Cancer, 2; Scirrhus Cancer, 1; Scrofula, 2; Addison's Disease, 1; Chronic Bronchitis, 1; Cancer of Rectum, 1; Cirrhosis of Liver, 1; Leucocythemia, 1; Chronic Bright's Disease, 3; Fibrous Tumor of Uterus, 1; Fracture of Femur, 1; Parturition, 1; Stillborn, 3; Old Age, 4; caused the remainder.

No death occurred amongst the entire number, 123, cases of Intermittent and Remittent fever and chronic Malarial poisoning; and these forms of malarial disease yielded in most cases readily and satisfactorily to treatment. The cases of Pneumonia and Typhoid fever, in like manner recovered.

Post-mortem examinations were instituted in most cases in the presence of the students of the Medical Department, of the University of Louisiana.

Through the kindness of my esteemed friend and colleague, Prof. Frank Hawthorn, M. D., I was enabled also to observe many other interesting cases and post-mortem examinations, and to obtain valuable pathological specimens.

The following catalogue presents a general view of the results of my labors during the past fifteen months, in behalf of the Pathological Museum of the University of Louisiana.

✓ **PATOLOGICAL SPECIMENS,** *Illustrating various Diseases, prepared by JOSEPH JONES, M. D., during fifteen months service in the Charity Hospital, New Orleans, 1st Jan'y 1869—1st April 1870.*

No.

DESCRIPTION OF SPECIMEN.

- 1.—Aneurism of left Ventricle of Heart. The aneurismal cavity in the muscular wall of the heart is capable of containing about two fluid ounces, and the walls of the heart have been reduced to a mere membrane, a few lines in thickness.
- 2.—Aneurism of Ascending Aorta. Death occurred in the case from rupture of the aneurismal sack within the pericardium. Case XXIV.
- 3.—Aneurism of Ascending Aorta and Arch of Aorta. Hypertrophy and dilatation and some fatty degeneration of heart. Death was caused by loss of power in the heart, and by the arrest or interference of respiration,

caused by the pressure of the aneurismal tumor upon the bronchial tubes and trachea. Case XXVII.

- 4.—Aneurism of Ascending Aorta and Arch of Aorta. Hypertrophy and great dilatation of heart. The lungs, as well as the heart and aneurismal tumor, are preserved in this specimen. Death was caused by the pressure of the aneurismal tumor upon the trachea and bronchial tubes. Case. XXVI.
- 5.—Aneurism of Descending Aorta. The aneurismal tumor presents an hour-glass contraction. Case XXIII.
- 6.—Vertebræ showing the effects of the aneurismal tumor of the descending aorta, in causing absorption and erosion of the dorsal vertebræ. Case XXIII.
- 7.—Aneurism of Internal Iliac; pelvic bones preserved; the tumor occupies a larger space than the pelvic cavity; heart and aorta in state of fatty degeneration. Case XXII.
- 8.—Hypertrophy, dilatation and fatty degeneration of heart; dilatation of arch of aorta; fatty degeneration of arterial system. Case XXIX.
- 9.—Portion of cirrhotic liver, with thickened capsule from preceding case, XXIX.
- 10-11.—Dilatation of Heart. The larger heart in the superior portion of the glass jar was taken from the negro woman Case XIX, and the lower heart from negro man. Case XX.
- 12.—Dilatation, Hypertrophy and Fatty Degeneration of Heart. Case XVII.
- 13.—Dilatation of Heart.
- 14.—Calcareous Deposit upon semilunar Valves of Aorta.
- 15.—Hypertrophy of Heart.
- 16.—Atrophy of Heart.
- 17.—Dilatation of Heart and of ascending Aorta.
- 18.—Hypertrophy and valvular disease of Heart.
- 19.—Fatty Degenerated Heart.
- 20-28.—Diseased Hearts, representing Hypertrophy Dilatation, Valvular Disease, Fatty Degeneration and Pericardial Adhesion.
- 29.—Fibrinous clot formed in Cavities of Heart during life. Patient entered Charity Hospital, January 27th, 1869, with hurried, embarrassed respiration, rapid, irregular pulse, and rapid irregular action of the heart; the action of the heart was tumultuous, irregular and thumping, and the sounds of the right auriculo-ventricular valve, and of the pulmonary semi-lunar valves were muffled and suppressed by the fibrous concretion.

The peculiar and distressing dyspnœa was not caused by a check of respiration, for the respiratory murmur was audible enough, but by the arrest of the current of the blood in the lungs. The dyspnœa evidently depended upon the imperfect circulation of the blood through the lungs, the damming back of the blood in the venous system, and the imperfect supply of arterial blood to the lungs, muscles and nervous centres. The left side of the heart being imperfectly supplied with blood, the arterial circulation is weakened, the pulse is small and intermittent, and the surface of the body cold, or more correctly, the animal temperature was depressed from the diminished supply of oxygen. At the same time, the arrest of the circulation, in the right or venous heart causes stagnation of the blood in the venous circuit, and this together with imperfect oxidation was manifested in the purple almost black hue of the lips, extremities and cheeks. The patient continued to grow worse; the dyspnœa increased; the action of the heart became more tumultuous and irregular; the restlessness was progressively aggravated; the patient could obtain no rest, night or day; was compelled to maintain the sitting posture, and threw his arms about, and heaved his chest, and incessantly groaned and called for more breath. On the 28th, after eating his dinner, got up from his bed, walked a few steps and fell dead. The large, dense light yellow, firm, irregular shaped fibrinous clot was found firmly attached to the *Carnæ Columnæ* and *Chordæ tendinæ* of

the right ventricle and extending through the auriculo ventricular opening; it was attached to the valves, and sent off branches which were firmly adherent to the muscular columns of the right auricle, and sent off a long ribbon-like concretion through the pulmonary artery, which divided and sub-divided, and followed the course of the divisions of the pulmonary artery.

- 30.—Fibrin of Blood.
- 31.—Fibrinous exudation from the surface of Pleura.
- 32.—Lungs and Heart: Melanotic Deposit in Lungs: thickening of Pericardium.
- 33.—Miliary Tubercles and Melanotic deposit in Lungs.
- 34.—Hepaticized Lung of Pneumonia
- 35.—Abscess of Lungs, with Tubercular deposit.
- 36.—Indurated (Cirrhosed Lung) effects of Chronic Pneumonia.
- 37.—Miliary Tubercles in Lungs.
- 38.—Scrofulous deposit in Lymphatic Glands and Bones.
- 39.—Tuberculous deposit in Lungs, Liver and Spleen of Monkey.
- 40.—Tubercles deposited in Lungs and Spleen of Monkey.
- 41.—Fatty Liver.
- 42-46.—Fatty Liver and Fatty Kidneys.
- 47-48.—Cirrhosis of Liver and Spleen.
- 49.—Tubercular deposits in Liver
- 50.—Enlarged Spleen of Malarial Fever.
- 51.—Lobulated Kidney of Russian Bear.
- 52.—Horse-shoe Kidney. Both Kidneys united by a bridge.
- 53.—Diseased Kidney and Ureter. Subject had but one large Kidney. The mucous membrane of the pelvis and Ureter was thickened and altered. The Ureter was greatly enlarged, thickened and indurated, being half an inch in diameter.
- 54.—Fatty Kidneys, Bright's Disease.
- 55.—Fatty Kidneys, Bright's Disease.
- 56-59.—Fatty Kidneys, Bright's Disease.
- 60.—Fatty Kidneys, Bright's Disease.
- 61-63.—Fatty Kidneys, Bright's Disease.
- 64.—Diseased Kidney.
- 65.—Disease of Supra-Renal Capsule of Kidney.
- 66.—Cancer of Kidney, organ greatly enlarged and infiltrated with cancerous deposit.
- 67.—Cancer of Testicles.
- 68.—Cancer of Testicle.
- 69.—Diseased Intestines, Chronic Diarrhœa and Dysentery.
- 70.—Inflamed Stomach (Gastritis).
- 71.—Diseased Intestines, Chronic Diarrhœa and Dysentery.
- 72.—Ulcerated Intestines of Chronic Diarrhœa and Dysentery.
- 73.—Perforation, Ulceration and Fibrinous Deposit in Chronic Diarrhœa and Dysentery.
- 74-76.—Diseased Intestines, Chronic Diarrhœa and Dysentery.
- 77.—Cancer of Rectum.
- 78.—Human Fœtus.
- 79.—Human Fœtus rendered transparent, showing structure and development of the bones.
- 80.—Placenta
- 81.—Enlarged and Inflamed Uterus after delivery, death from Puerperal Peritonitis.
- 82.—Extra Uterine Pregnancy.
- 83.—Fibrous Tumor of Uterus.
- 84.—Fibrous Tumor of Uterus.
- 85.—Fibrous Tumor of Uterus.
- 86.—Fibrous Tumor of Uterus.
- 87.—Fibrous Tumor.

- 88.—Fibrous Tumor.
- 89.—Colloid Cancer of Thigh.
- 90.—Fibrous Deposit and thickening of Meninges of Human Brain, (Chronic Meningitis).
- 91.—Fibrous Deposit and thickening of Membranes of Spinal Cord, (Chronic Meningitis).
- 92.—Human Brain.
- 93.—Fractured Femur. The patient, a stout, athletic man, during an attack of Delirium Tremens, jumped out of the second story of the Charity Hospital, and fractured the neck of the femur, and died from the effects of the severe concussion.
94. 46.—Tibia and Fibula of man who had suffered from Rickets in childhood. The bones are remarkable for their great strength, solidity and density. If the patient outlive rickets and die afterwards, after attaining adult age, it will be found as in this case, that the bones have assumed great weight and density, and in some instances, the cavities of the cylindrical bones are said to have been filled up with earthy matters. In these specimens the cancellated structure of the tibia is very dense and compact, and the medullary cavity of the shaft very nearly obliterated.
- 97.—Ankylosis of knee joint from mechanical injury. Patella firmly consolidated with femur. Tibia and fibula firmly consolidated with each other, and to the femur. Bones present the characters and density of healthy bone.
- 98.—Ankylosis of knee joint; effect of Syphilitic and Rheumatic Inflammation. Patella consolidated with femur, and tibia and fibula consolidated with each other, and the tibia (articulating surface), with the articulating surface of the femur. The bones are light and spongy, and of far less weight relatively than the bones of the ankylosed knee joint, resulting from mechanical injury. (No. 97.)
- 99.—Carious Vertebrae. Lateral curvature of Spine in adult man. Death from sudden cause not connected with the disease of the vertebrae, which was of long standing.
- 100.—Cranium of common cat, showing disease of lower jaw bone of the left side. The ramus of the maxillary bone, is thickened and hypertrophied, and presents a ragged plumose outline.
- 101.—Sequestrum from Thigh of confederate soldier.
The following is an outline of this case:
Charles R. Barker. C. S. vols. 7th Reg. La. Vols; height, 5 feet 8 inches; weight in health, 154 lbs; brown hair and eyes; nervous, sanguine temperament. Wounded in right leg at first battle of Manassas, 21st July, 1861. Minie ball struck the lower portion of the right femur, about two inches above its inferior termination, the knee joint. The bone was not fractured; the ball simply buried itself in the femur. The force of the ball must have been greatly spent, otherwise it would have passed entirely through the bone. The wound inflamed, and assumed an unhealthy appearance, and twenty days after the reception of the wound, the thigh was amputated near the middle, or about eight and a half inches from the trochanter major, in the General Hospital at Culpepper Court House, Va. After the operation, the wound did not heal, and the stump assumed an unhealthy, suppurating state. The patient was confined to his bed for more than four months, during which time, there was but little progress in the healing of the wound, the discharge continuing, although there was partial union of the flaps. At the end of this period, the patient attempted to walk on crutches, and on the 20th of February, 1862, whilst the snow covered the ground, went out. This caused the stump to inflame, an accumulation of pus took place around the bone, and the flaps were opened. At this time, large quantities of offensive pus were discharged. The patient was so much reduced by this condition of the stump, that he was compelled to remain in bed, until the first of June. After this date, the wound slowly improved and considerable portions of the flaps united. In December, the patient was able to travel to Georgia; and enter

the General Hospital at Augusta, January 10th, 1863, and at this time came under my treatment. After careful examination, the bone was found to be extensively diseased; and the discharge from several fistulous openings was profuse and fetid. At the time that this patient entered the general hospital, he was in a most weak and feeble condition, and suffered from hectic fever, consequent upon the condition of the stump. The pulse was rapid and feeble, and the complexion dusky and unhealthy. The sloughing went on rapidly, until the bone of the thigh was exposed and denuded. The patient was placed upon the Tartrate of Iron and Potassa, Sulphate of Quinia, generous diet, and stimulants and opiates. Under this treatment, the patient gathered sufficient strength to resume the use of his crutches. After some imprudence, the patient was again prostrated. The bone which was examined daily, finally protruded a little and gave unmistakable evidence that it was detached. On the 24th of May, I placed the patient under the influence of chloroform, and abstracted the bone, $7\frac{1}{2}$ inches in length and extending to the trochanter. I lost sight of this patient, until I found him in the Charity Hospital this winter, just after I had exhibited the diseased bone to the Medical class. The limb healed up entirely, and the patient wears a stump. The periosteum of the bone threw out another bone, and the thigh feels as if it had a large bone.

102.—Superior portion of Femur of an adult male, afflicted with Cancer of the thigh.

The trochanter minor and the shaft of the femur for four inches below, present a rough, hypertrophied, cancellated appearance, with numerous spiculae of bone. The bone is light, and porous very different from healthy bone. The following is an outline of this case: John Morris, male, age twenty-five; height five feet six inches; weight 160 pounds; dark-brown hair; blue eyes; ruddy complexion; native of Norway; seaman; has been subject to rheumatism, three or four years. Had syphilis one year ago. Admitted to Charity Hospital, ward 18, bed 268, March 22d, 1869, with swelling of left thigh, extending to Poupert's ligament, accompanied with pain; says that his leg began to swell two months ago. During a period of two months before the swelling commenced, the patient had been standing in the water, whilst surveying on the coast. As the patient presented the appearance of a cutaneous eruption which was supposed to be syphilitic, he was placed upon Iodide of Potassium and Bin-Iodide of Mercury. The eruption disappeared, and the general health improved under the use of these alteratives, and the skin affection disappeared; but the swelling of the thigh, which presented a hard, nodulated feeling like a collection of lymphatic glands, continued to increase. The local application of Tincture of Iodine and Iodine Ointment, neither relieved the pain nor arrested the progress of the tumor. The pain was so intense that it was necessary to administer opiates freely at bed time. The following are the changes of the pulse and temperature:

April 2d.—Comp'ains of sharp lancinating pains in right shoulder and left thigh, and knee. Pulse 100; respiration 25.

April 6th.—Complains of continuous pains during the night in left leg. The patient locates the pain in the bone of the leg. Bowels loose. Pulse 100, respiration 32.

April 15th.—As the case did not yield to ordinary measures, I called a consultation and it was decided to plunge an exploring needle into the tumor. When this operation was performed, nothing but bloody serum to the extent of one or two pints issued.

May 12th.—Pulse 100; respiration 28; temperature of axilla 100° F.

May 14.—Pulse 100; resp. 25; temp. hand 97.25° F; temp. axilla 100° 5

“ 15 “ 100 “ 25 “ “ 96.5 “ “ 100° 75

“ 16 “ 100 “ 58 “ “ “ 100° 5

“ 17 “ 100 “ 27 “ “ “ 100° 20

“ 19 “ 100 temperature of axilla 99.75° .

May 29th.—Pulse 100; respiration 26; temperature of axilla 100.

May 31st.—Pulse 102; temperature of axilla 102.

June 4th.—Pulse 130; respiration 35; temperature of axilla 101.5°.

June 6th.—Pulse 105; temperature of axilla 100°.

During an attack of illness with which I suffered in July, the wound was freely probed and lanced. Suppuration of the structures of the thigh took place, the bowels became loose, the patient became restless and feverish, and was bathed in profuse clammy sweats, and finally died about the middle of July, in a greatly emaciated condition. Upon post-mortem examination a colloid cancer in a state of destruction and gangrene surrounded the upper third of the femur.

- 103.—Femur of adult female who died from cancer of the thigh. The trochanter minor and shaft of the bone for four and a half inches is hypertrophied and roughened, and has shot out wing-like projections and elongated spiculæ. These spiculæ are most numerous, forming a porous cancellated structure, upon the posterior surface of the femur, and the roughness extends down, in a line, half an inch broad on the posterior aspect of the bone, within two inches of the lower extremity of the femur. The bone is light, porous and unlike the bones in health.

The following is an outline of this interesting case:

Cordelia Hamilton, colored; aged 47 years; field hand and cook; native of Kentucky; was admitted to ward 34, Charity Hospital, July, 1869. Patient says that up to July, 1868, one year ago, her health had been good. At that time, she noticed a swelling in her right thigh about the middle third; but this did not give her much pain, or interfere with her duties for several months. The swelling increased, with lancinating pains, and occasional loss of sleep at night. Patient was never married, never had any children, and the mammæ were not developed at all. Height, 4 feet, 7 inches. On admission, the patient was somewhat emaciated, apparently feeble, and was too weak to stand up long at a time, and was unable to walk without crutches. The right thigh was very much enlarged, and felt warmer than the left and the leg below. The pulse was about 95 per minute. Some disturbance in action of heart referred to pericardial effusion. Respiration normal. Patient suffered with a cough which sometimes gave trouble at night. Temperature under axilla, 100°. Appetite poor, bowels torpid, skin moderately cool, except over the affected thigh. The thigh felt nodulated and hardened, and the disease was pronounced to be a malignant growth surrounding and involving the bone. Exploration with trochar gave no evidence of pus. The right thigh continued to enlarge, and the knee and leg became œdematus. On the 18th of August, the right thigh measured at knee, 16½ inches in circumference, at middle, 25 inches, at junction with trunk, 22 inches; the sound left thigh measured at knee, 11 inches, at middle, 12 inches, and at the junction with trunk, 12 inches. The following are the observations on the pulse, respiration and temperature upon the four days preceding death:

Aug. 25, 9 A. M.—	Pulse 96;	respiration, 16;	Temp. axilla, 101° 2
" 6 P. M.—	" 96;	" 16;	" " 100° 5
Aug. 26, 9 A. M.—	" 88;	" 16;	" " 99° 5
" 6 P. M.—	" 86;	" 16;	" " 101° 2
Aug. 27, 9 A. M.—	" 88;	" 16;	" " 100° 5
" 6 P. M.—	" 85;	" 16;	" " 100° 5
Aug. 28, 9 A. M.—	" 88;	" 15;	" " 99° 5
" 6 P. M.—	" 86;	" 15;	" " 100° 0

Died August 29th. The forces gradually gave way without any marked symptoms. Before death the emaciation had been extreme.

The following are the results of the post-mortem examination:

Exterior. Great emaciation. No mammary development upon chest. Right thigh greatly enlarged; left a mere shadow; the bone with the skin and thin layer of muscles.

Chest. No adhesions. Lungs emphysematous. Pericardium contained considerable fluid.

Abdomen. Peritoneum very thin; sigmoid flexure greatly distended with gas; small intestines greatly contracted and anæmic.

Liver friable, and on its convex surface a small circumscribed abscess. Kidneys lobulated and contained cysts and small abscesses. Generative apparatus poorly developed. The abdominal aorta and its branches, presented appearances of calcareous degeneration. The blood was remarkably thin.

The right thigh was carefully dissected. A large encephaloid cancer involved the muscular structures of the thigh and surrounded the bone, and numerous osseous spiculae extended from the femur into the cancerous mass. Under the microscope the tumor was found to consist of cancer cells, fibrous tissue, oil globules and granular masses. At one portion near the head of the femur, the tumor was undergoing softening, and this portion was loaded with granular matter.

104.—Skleton of adult female, 28 years of age, exhibiting the effects and ravages of constitutional and inherited syphilis.

I observed this unfortunate woman, in the Charity Hospital, only a day or two before her death. At the time of my observation, she appeared to be exceedingly feeble and was a mass of offensive running sores. I obtained the body after death, and had the skeleton carefully prepared. The hymen was perfect, and the disease appeared to have been derived from inheritance, and to have manifested itself in early childhood. The feet are very small—not much larger than those of a child four years old, and appear never to have been used in walking. All the long bones of the body were more or less carious, and in almost every case were fractured or rather ulcerated through at one or more places. The pelvic bones were carious and the os-sacrum a mere shell. The vertebræ were all carious. The upper jaw contained one small tooth and the lower jaw three teeth. The alveolæ were completely absorbed. The outer and inner tables of the skull were perforated in several different places. The lower jaw on the right side was eroded through. The position of these fractures or erosions, were marked during life by open running sores.

It is impossible with the pen to portray adequately the terrible condition of this unfortunate female, whose bones literally rotted piece-meal by piece-meal during life. And the best description which we can give of the skeleton is to say that the bones of the foot, ankle, the os calcis were carious; the tibia and fibula; the femur; the pelvic bones; the os-sacrum the radius and ulna; the humerus; the scapulæ and sternum; the lower jaw and the cranium, were all eroded through in various places.

In the clinical report of the cases, and in the record of the temperature, pulse and respiration, during the term of Hospital Service, I have received valuable assistance from members of the Medical Class, amongst whom it gives me pleasure to mention honorably for their attention and courtesy; Messrs. W. P. Adkins*, of Texas; Henry Bezou, La.; Rollin T. Burr*, Ala.; S. T. Birdsong*, Miss.; Benj. H. Baldwin*, Texas; S. R. Blakewood*. La.; Wm. H. Cunningham, Ga.; D. A. Cook*, Texas; L. S. McCrindell, La.; Geo. N. Monette, Miss.; E. N. Potts*, B. F.

* NOTE—Now, M. D.

Rogers, La.; D. W. Ramsay*, Ala.; R. F. Wright*, La.; H. M. Longino*, La.; J. M. Hooper*, Miss.; J. M. McFarland*; F. H. Tucker*; L. C. Cheek*, Miss.; J. D. Terrell*; J. D. Beck*; H. McDonnell*; R. B. Carson*; W. G. McInnis*; W. C. Moody*; R. G. Williams*; S. M. Jordan*. My thanks are also due to Dr. Jno. M. Cullen, of this city, for valuable assistance in the preservation of the pathological specimens.

The Yellow Fever, Sanitary Condition, and Vital Statistics of New Orleans during its military occupation, the four years 1862-5.

Article No. II. By STANFORD E. CHAILLÉ, A. M., M. D. Prof. Physiology, and Path. Anat., Medical Department, Univ. of La.

"Il faut modifier la théorie pour l'adapter à la nature, et non la nature pour l'adapter à la théorie."—CLAUDE BERNARD.

THE military occupation of this city was characterized by three exceptional facts; the absence of epidemics, notwithstanding the annual presence of Yellow Fever, and of an unusually large number of the unacclimated; the existence of a Quarantine, more perfect than civil authority can possibly effect, and so perfect that an able advocate (Dr. Elisha Harris, U. S. San. Com., 1865, Supt. N. Y. Met. Board Health, 1870,) says, "by the exercise of absolute and relentless military authority, an *impregnable* system of Quarantine was maintained;" and the enforcement of "excellent sanitary regulations" by an efficient sanitary police, so efficient, says the same advocate, that "so clean a city had never before been seen upon the continent." It is not singular that the co-existence of these three exceptional facts should have produced a deep impression upon the minds of the officers, by whom the Quarantine and scavenging were enforced; of the medical profession which in part has advocated the former, and unanimously the latter; and of the public which enjoyed an unusual exemption from the scourge. The first and last of these are convinced that the unusual Quarantine and cleanliness were the unquestionable causes of the unusual exemption from Yellow

* Now M. D.

Fever epidemics, and concur with General Butler, who on December 24th, 1862, after seven and a half months' rule, recounts in his "Farewell address to the Citizens," very many benefits conferred on them, and among these "I have demonstrated that the pestilence can be kept from your borders." Parton, the enthusiastic biographer, devotes pages to the illustration of this noble deed of the "Hero of New Orleans." General Banks, his successor, entertained the same views, and the U. S. Provost-Marshal of New Orleans, General James Bowen, writes in 1865, that "from a careful observation during two years in New Orleans, I am satisfied that it was only by the vigorous exercise of military power in the enforcement of the sanitary regulations, that the city was exempt from the yellow fever; and that with the usual lax administration of such laws by civil authority, the city will again be subject to its visitation."

The medical profession has been divided in its views. Many physicians coincide with the military and popular opinion; among these are Drs. E. Harris (U. S. San'y Com., Memoirs, 1867), E. D. Fenner (N. O. So. Jour. Med. Sciences, May, 1866), A. Flint (Pract. Med., 1866), and M. Clymer (Am. Ed. Aitken's Practice, 1868). It is believed that much the larger number of the old resident physicians of New Orleans oppose the opinion so generally accepted; among these are Dr. J. C. Faget, (Report of 1864 as a member of a "Consultative Commission" appointed by General Banks), the author of an able editorial (Nov. No. 1866 So. Jour. Med. Science), and he, whose professional opinion is more potent in this community than any other's, and who has for nearly forty years served in the Charity Hospital, and annually observed the yellow fever of New Orleans, Prof. Warren Stone (published lecture in New York, 1867). The question is important, and requires for its decision a fair consideration of all the facts known as to yellow fever here during the war. To appreciate even these, other facts are needed, which shall now preface the former.

Facts referring chiefly to population, 1862-1865.

Louisiana seceded from the United States January 26th, 1861, and aided to form the "Provisional Government of the Confederate States," February 8th, 1861. From this time to May 1862, thousands

of the citizens, with musket in hand, were scattered from the Rio Grande to the Potomac; many found a last home from Bull Run to Shiloh, and in the city there was an endless coming and going of brother soldiers. Commodore Farragut's fleet (U. S. N.) arrived in front of New Orleans, April 25th, 1862, and on May 1st, Gen'l Butler, U. S. A., with some 15,000 soldiers took military possession of the city, whose civil population was diminished by the thousands of citizens who had abandoned it. On December 16th, 1862, Butler was relieved by Gen'l Banks, who was succeeded by Gen'l Canby, in May, 1864. Civil replaced military government March 19th, 1866. The military Board of Health extended its mortuary records of the civil population from November 1862, to May 20th, 1866. The war had been virtually terminated by the surrenders of Gen'l Lee, April 9th, Johnston, April 26th, Taylor, May 4th, and Kirby Smith, May 26th, 1865. Succeeding these surrenders, thousands of Confederate soldiers and refugees, and many freedmen flocked to the city, giving it during the balance of 1865 the largest civil population it had ever contained. There was now some relaxation, probably, in the enforcement of Quarantine, and certainly some in the vigorous execution of scavenging and sanitary regulations.

The facts given indicate that the civil population was at its minimum in 1862, and its maximum in 1865. The general opinion of intelligent citizens who remained in New Orleans is that the population was much diminished from May 1862, to May 1865. Dr. Harris, in July, 1865, estimated that then "the total population, including the permanent or the transient military forces, was little less than 200,000." Dr. J. J. Woodward, U. S. A. Surgeon General's Office, writes: "As to the civil population of New Orleans during the period referred to, I have myself no doubt at all that, the army of camp followers, sutlers, traders, etc., far exceeded the number of fugitives, and should not be surprised if, in fact, the civil population were shown to be really larger than before the war, but I know of no reliable reports bearing on the case."

The United States census, 1860, estimated the population at 168,675, which fact associated with the considerations above

given satisfy me that the civil population varied from about 150,000 in 1862 to 185,000 in 1865, or say for the four years 660,000. It is quite certain it did not exceed 200,000 per annum, or 800,000 for the four years. For the benefit of the death rate of new Orleans, let the above figures be accepted as the extremes, and let full estimates be assigned for statistical purposes, as follows: Total civil population of New Orleans, 160,000 for 1862; 170,000 for 1863; 180,000 for 1864, and 200,000 for 1865. It certainly cannot be complained that these figures under-estimate the facts.

Facts as to yellow fever in New Orleans prior to 1862.

During sixty-five years, viz., from the first yellow fever epidemic in 1796, (seventy-eight years after the foundation of the city), to 1862, there occurred about thirty-five epidemics, some too slight to deserve the epithet; however, of these thirty-five, not less than eleven were violent, and the one of 1853 was so exceptionally terrible as to have well deserved its characteristic designation, "The Great Epidemic." This, though supposed at the time to have exhausted the unacclimated material on hand, was nevertheless followed by the epidemics of 1854 and 1855, each of which caused a mortality which brought them in rank with their vilest predecessors, except 1853. Two years exemption was followed by the epidemic of 1858, which in this evil comparison attained an eminence never surpassed to the present day, except by 1853. Thus then, the six years, 1853-58, and more especially the three successive years, 1853-4-5, constitute a culminating epoch in the yellow fever and mortality history of this city, from its foundation to the present day;—and, for subsequent use, it is important to insist on the fact, that in the entire history of New Orleans, no three successive years can be found at all comparable in fatality with those mentioned.

Though epidemics occurred in about one half only of the sixty-five years, yet it is probable that there were some cases of yellow fever every year, and it is certain that such was the case from 1840 to 1861. Though averaging one epidemic every two years, yet their recurrence was so irregular that several intervals of exemption occurred, of as much as three, four and even five years, viz: 1805-8, 1813-16, 1844-6, 1848-52, for the slight mortality in 1848 and 1849 scarcely justifies the designation of epidemics;

and to this list must be added the three last of these sixty-five years, those three which immediately preceded the military occupation of the city. During these the yellow fever mortality was less than for any other three successive years of which we have authentic reports, viz: 91 deaths in 1859, 15 in 1860, and none in 1861.

In many past years, the first cases of yellow fever have been traced to the shipping, and in many others there has been as complete proof, as such negative proposition admits of, that there was no such connection, nor other reason to assign the origin of the disease to contagion, or other mode of foreign importation. During the thirty-five years since 1843, an epidemic has never occurred when the first case was later than the month of June; I believe this would hold good for the whole time since 1796. The only apparent exception, I have found, is for the severe epidemic of 1822, in which there was uncertainty as to the date of the first cases, but it was certainly "as early as the beginning or middle of July." First cases have appeared as early as June without being followed by epidemics.

The first Quarantine established was maintained only four years, 1821-4, having been abandoned early in 1825 from the general conviction that it had proved worse than useless, for yellow fever was present every year, and to the extent of a very violent epidemic in 1822, and an epidemic in 1824. After thirty years discontinuance, the Quarantine was re-established in March, 1855, and is still enforced. Very violent epidemics occurred in 1855, 1858, and 1867, and excepting perhaps the year 1861, there have been cases of yellow fever every every year of the existence of the present Quarantine.

Thus including the whole time, seventy-three years, from 1796 to 1870, there have been nineteen years with Quarantine. During these, there have been cases of yellow fever every year (1861 perhaps to be excepted), and there have been five epidemics of which four were very violent. Now with these facts as to epidemics and Quarantine, let there be associated another fact so notorious as to require no proof, that the sanitary condition of New Orleans for the whole time, excepting the four years 1862-5, has been one long, disgusting story of stagnant drainage, foul sewer-

age, environing swamps, ill- and un-paved streets, no sanitary regulations, and filth, endless filth every where. An official description of this notorious and habitual filth will be found on a subsequent page. There has been no improvement since the war in these matters, which could never have been worse than in 1868 and in 1869. This year, 1870, has brought a little hope, small as a babe, may it grow as well!

A logical mind, which, cautious as to facts, is yet self-sufficient enough to judge for itself, and which analyzes the motives and reasons for the decisions of the multitude, knows well how fear exaggerates facts, and hope jumps at conclusions, and will not be surprised, after reading the above brief record of the epidemics of sixty-five years, that the hostile population of New Orleans, so greatly scourged by yellow fever, should have confidently anticipated that if the enemy should take New Orleans, the yellow fever would take the enemy. Nor is it surprising, that the U. S. authorities should have shared these anticipations, and that all should have attributed the non-realization of them to the only exceptional conditions known to and comprehensible by them, viz; the rigid enforcement of Quarantine and of Sanitary Regulations. Is it necessary to warn, that conclusions originating in hopes and fears, and founded on insufficient premises are not trustworthy?

THEORIES OF YELLOW FEVER.

Some prefatory remarks on this subject should precede the record of 1862-5; in order that each reader may judge for himself, which theory the evidence favors. The various opinions entertained by the profession may be summarized under three heads, with a fourth for numerous modifications of the three.

1. Yellow fever is communicable by both person and fomites, *i. e.*,—is both contagious and portable, as is small-pox.

2. Yellow fever is communicable by fomites, but not by person, *i. e.*,—is portable but not contagious.

3. Yellow fever is not communicable either by person or fomites, *i. e.*,—it, like malarial fever, is neither contagious nor portable; and attacks those only who are exposed, to the *places* (never the person) where the poison is.

4. Yellow fever is produced by two different poisons;—or by one which causes different results, depending on the place where it is generated, the quantity produced, and the different conditions of those poisoned. Thus, the poison is sometimes either contagious or portable, or both, and at other times is not. To illustrate, some physicians in New Orleans who have favored contagion and Quarantine, and yet been forced to acknowledge that the disease originates here, have contended that only foreign yellow fever ever caused epidemics, and that the domestic poison never manifested itself except endemically and sporadically. This fourth theory or theories embrace La Roche's "contingent contagionists."

In considering these theories, it is well to recall that there are many medical questions in regard to which, the evidence is too contradictory, and the premises are insufficient to justify an absolute conclusion; and that it has been said, well if not always truly, that "when two physicians quarrel over their opinions, there is in the midst of their contradictory arguments but one thing certain, which is that their theories are insufficient to account for all the facts, and that neither represents the whole truth."

Unbiassed minds are now properly prepared, as I think, not only to receive, but also to judge, each for itself, the facts which follow :

YELLOW FEVER IN NEW ORLEANS, 1862-65.

1862. No evidence of the existence of the disease has been found in the official records, which however are defective from July to November. Dr. E. D. Fenner says (May No. 1866, Southern Jour. Med. Sciences): "I myself saw a fatal case of yellow fever near St. Mary's Market, in July, 1862, that was imported from Key West, Florida. There may have been others which have not been brought to light, for every effort was made to ignore the existence of yellow fever in the city, to prevent panic among the soldiers." The editorial in the November No., 1866, So. Jour. Med. Sciences, says: "On the 12th of September, 1862, we saw, with our own eyes, as malignant a case of the disease near the St. Mary's Market, as we ever beheld. It was characterized by black vomit, hæmorrhage, etc. The subject was a robust man

from New York, who had arrived here recently on a tug-boat from that city, the boat having laid in the harbor of Nassau [in the British Bahama Island of New Providence,] at which place the disease was for the first time prevailing, four days, and this man having gone ashore more than once. He died on the fourth day of his illness. He was attended by unacclimated persons male and female, and we made it our business to watch the neighborhood until October 1st following, but up to that date no new cases appeared." There is then ample proof of the existence of imported cases of yellow fever in New Orleans in 1862, and of the non-extension of the disease to any observable degree.

1863. The official records of the civil population, report only two deaths by yellow fever in 1863, occurring in the two weeks September 6th—20th. Dr Harris writes (no doubt as to the same cases), that two well marked and fatal cases occurred in the autumn of 1863, and were received in the Charity Hospital, both were boat hands from a river tug. "Nearly one hundred cases of the fever occurred in the river fleet and in the *Naval Hospital that season. The history of all these cases in detail shows that they were not of imported origin. They nearly all occurred in crowded, filthy and unventilated gunboats that were at anchor in the river at New Orleans." The Quarantine officer (Dr. Baldwin), reported at the Quarantine, about sixty-five miles below the city, three of the river fleet sent down from New Orleans with twenty-three cases of yellow fever, of which nine died (September 22d, to October 20th); and on July 4th, †1863, the Spanish man-of war Pizarro from Havana was ordered into Quarantine while on the way up the river. There were fifteen cases of yellow fever on board.

* The Naval Hospital occupied "a large pile of old buildings," located one square from the river levee, and between New Levee, Tchoupitoulas, and Erato streets. The "Sailors' Home," located in the same place, has interest for the epidemic of 1867; and Girard street, a few squares lower down the river than Erato street, was the chief scene of the cases which occurred in 1857. The "St Mary's Market," which has been referred to for 1862, is between New Levee, Tchoupitoulas and St. Mary's streets, (the last is about three-quarters of a mile above Erato street.) Lake Pontchartrain and the "Basin" are to be referred to: The Lake is north of New Orleans, and four and a half to seven and a half miles distant from the various parts of the seven miles of river upon which the city fronts. There are two "Basins," each a terminus in the rear of the city of the two canals which extend to the Lake. One is about three-quarters of a mile from the river and from the Naval Hospital; the other is about half a mile from the river, and one and a half miles from the Naval Hospital.

† Dr. J. J. Woodward, "Circular No. 1, Surgeon-General's Office, 1865," gives this date as July 4th, 1864. The report of the Quarantine Officer and of Dr. Harris indicate positively the date given in the text.

Dr. Harris says that, from July 4th, 1863, to September 10th, 1865, the Pizarro was the *only* vessel at Quarantine which brought yellow fever from any other place than from New Orleans.

1864.—The official records report six deaths by yellow fever of citizens; the first occurring during the week September 26th--October 2d, and the last, December 12th--18th. One of these six deaths occurred October 19th, in the Charity Hospital, from which was discharged, November 29th, the second and only other case which entered this hospital. There is then a total of seven cases with six deaths officially reported for 1864. It is no doubt to five of these six deaths that Dr. Harris thus refers: "In 1864 there were five undoubted and fatal cases of yellow fever, terminating in black vomit." They "occurred in persons who resided or daily visited in the vicinity of" the Naval Hospital. "They were exposed to known causes of the fever. Other cases may have occurred; if so, they have eluded all search. A few lines below he rather singularly adds, "* * * the five cases occurred outside of the hospital premises. Other cases occurred, but they were directly dependent on intercourse with the infected vessels, and the bedding brought from those vessels."

The above account of yellow fever among the citizens of New Orleans in 1864 might no doubt be enlarged by research even now, but sufficient has been given to prove all which greater research could prove, viz., that in spite of an "impregnable Quarantine" and an "efficient sanitary police," yellow fever *existed*, but did not become an epidemic, nor extend to any notable degree. One additional fact, as to the six deaths in this year, should be borne in mind, as applicable to all years. So many deaths by yellow fever seldom indicate less than three times as many cases, and generally more; and that in many years, as is well known, civil physicians have rendered themselves liable to Dr. Fenner's criticism of the military authorities, in 1862 "every effort was made to ignore the existence of yellow fever in the city, to prevent panic."

What may be termed the naval history of yellow fever in New Orleans in 1864 is much more important than the above civil history, much of its interest is due to the facts, that it supplies the best evidence probably ever given or attainable; 1st, that

an "impregnable Quarantine" enforced by "rigid and relentless military authority," and the absence of any discoverable source of importation, did not avail to keep the disease out of New Orleans; and, 2d, that it originated in New Orleans in 1864, just as the majority of our physicians, having a long practical experience, have constantly maintained that it did in other years.

The three following statements deserve consideration :

1. "The official usages and the armed discipline of the naval fleet in the harbor of New Orleans and upon the river, enabled the medical officers to trace to its source every case of yellow fever that occurred in the gunboats."

2. "The infected vessels were under an armed surveillance and discipline," and "no communication with infected vessels was allowed." (It is observed of two only of the twenty-five vessels, to be referred to, that free communication with infected vessels or the shore did occur).

3. No infected vessel from a foreign port arrived even at Quarantine.

Now, notwithstanding all this, twenty-five vessels, iron clad gunboats, etc., were attacked with yellow fever. More than 200 cases, of which fifty-seven died, contracted the disease on board. Many of these cases were removed to the Naval Hospital, where thirteen persons are specified as being on duty, (there were doubtless more) of whom twelve were attacked, and three died. Thus a total is given of more than 212 cases, and certainly not less than sixty deaths. Of the thirteen cases contracting the disease at the Naval Hospital, five were in a guard of six soldiers, of which one died. Of the many United States soldiers in New Orleans in 1864, there were probably more cases and deaths than in these six; but unfortunately I have not been able to procure any reports of the army, so as to enable me to complete the civil and naval history of yellow fever in New Orleans in 1864 with its military history. In alluding to this defect, I will close the list of omissions to be regretted: these are the failure to state what was the total number of vessels of which the twenty-five were a part; what the number of the unacclimated exposed on board of these twenty-five to the poison infecting them; and

whether those on duty at the Naval Hospital, and attacked there had certainly not been on board of any of the infected vessels.

Of the twenty-five vessels, two were tin clad in the Lake Pontchartrain police service, and one was a sloop from the Lake (probably a trader) "lying in the Basin, tied up alongside of the wharf." This sloop had free communication with the shore. The other two were certainly not less than four miles distant from, and had no communication with the river or city. The first case on these three vessels occurred September 23d, in the "Fort Gaines, a tin clad in the lake police service." The remaining twenty-two vessels were in the river service. Four were in what may be comparatively termed, active service, two tug boats, and two "steamers," running between New Orleans and the blockading fleet off the Texas coast. The eighteen others were moored at the wharves, or at anchor in front of the city,—one, however, was two miles below the city, from whence it had not moved for a year, whilst a second "laid probably three and a quarter miles farther up the stream than most of the others." The river fronts the city for about seven miles, and "most of the others" seem to have been near the Naval Hospital.

The first of all the cases known in 1864, occurred on September 12th, and the last death was on December 18th. The first case occurred on the "Meteor," which came from the "Head of the Passes" of the Mississippi River, ninety five miles below the city. She had been at anchor at New Orleans some two months. The next two cases occurred on September 21st, one in the "Portsmouth" which "had been lying at anchor before the city for two years; no communication with infected vessels allowed; has visited no other port since leaving Portsmouth, New Hampshire:" the other in the ordnance ship "Fear Not," which had had yellow fever badly in 1863, but had not moved for a year from where she then was "lying two miles below the city." The fourth case recorded was on Lake Pontchartrain, as above mentioned. The fifth case was the first on the four vessels referred to as being in more active service, and occurred September 24th, on the steamer "Arkansas" which had been lying in the river, at the foot of Erato street, for about three weeks before the outbreak of the fever, and had been running between New Orleans

and the Texas blockading fleet. After September 26th, forty cases with fourteen deaths (included in the totals given), occurred on the "Arkansas," during a trip of twelve days from New Orleans to the fleet, and back to the Quarantine station. A sixth case of interest is recorded, as occurring September 26th, on the ironclad "Tennessee" which was captured August 5th 1864, in Mobile Bay, and brought to New Orleans. [Dr. Fenner says that "at Mobile, where we remained during the summers of 1863 and 1864, there were no unquestionable cases of yellow fever"] It was manned from various healthy vessels of the fleet. "The first man taken sick was a negro, native of New Jersey, who had not been on shore since he left New York."

It is said of these twenty five vessels generally, that they were remarkably close in their exterior construction, hot, filthy, ill-ventilated and overcrowded "gunboats and other vessels lying idly at anchor within a mile from the densest portions of the city." It is also asserted "that vessels and river boats of ordinary construction and in active service escaped yellow fever almost without exception." Of one hundred and twenty active steamers and sailing vessels under the control of the quarter master in charge of water transportation, "only one had yellow fever on board;" these were "open, ventilated, and moving briskly about from place to place, yet infinitely more exposed to all sources of exotic infection." In connection with these statements, should be re-called that which has been reported of seven of the twenty-five vessels, in active service comparatively to the other eighteen. Three of the seven were not in the Mississippi river, and had sixteen cases of which four died; the other four were in the river, and had sixty-one cases of which twenty-five died.

The preceding Naval History is only an abbreviated account of Dr. Harris' details, which account contains, it is believed, every fact of any importance, and completes the history of yellow fever in New Orleans so far as I have been enabled to gather the facts.

1865. Only one death by yellow fever is officially recorded. It occurred in the week August 20th—27th.

The details of the sanitary history of New Orleans for the five years, 1866-1870, will be given in a subsequent article, however, the following facts in reference to yellow fever and other epidemics, have an interest in connection with the present subject.

1866. There were 192 deaths by yellow fever, of which 93 occurred in the Charity Hospital out of 130 cases; and 97 of the 192 died in the month of October. The first case occurred August 9th. On July 14th, the cholera, prevailing in Europe and America, appeared, causing 1294 deaths, of which 998 occurred in the months of August and September. There were 188 deaths by variola and varioloid. The total deaths were 7754.

1867. There were 3107 deaths by yellow fever, a greater mortality than by any preceding epidemics, except those of 1853 and 1858. Of 1493 cases in the Charity Hospital, 672 died. Of the 3107 deaths, 2709 occurred in the months of September and October. The first case sickened on the 5th and died on the 10th of June. There were 581 deaths of cholera, and 444 of these in November and December. There were 47 deaths of variola and varioloid. The total mortality was 10,096.

1868. There were 5 deaths only by yellow fever. These are recorded as having occurred in the Charity Hospital, where there was a total of eight cases. There were 129 deaths by cholera, of which 120 occurred in January. Variola and varioloid caused 14 deaths. The first official annual statement published is in the April No. 1870 of this Journal, and reports a total mortality of 5343, which indicates the smallest death rate which has occurred since 1845.

1869. There were only 3 deaths by yellow fever. One of these occurred in the Charity Hospital where there were three cases. Cholera has disappeared since January 1868 to the present time. Variola and varioloid caused 141 deaths, of which 122 were in November and December; these diseases have continued to date (June 1870), causing a monthly mortality of from 56 to 122, and a total mortality for the five months of 446, more than three-fourths of which has been of negroes. The total mortality for the year 1869 was 6001; indicating a gain a small death rate for New Orleans.

MORTALITY IN NEW ORLEANS BY ALL DISEASES, DURING THE
FOUR YEARS 1862-65.

I owe to the official courtesy of Surgeon General J. K. Barnes, U. S. A., and to the personal kindness of his aid, Brevet. Lt. Colonel, J. J. Woodward, U. S. A., the weekly reports of the civil population as recorded by the Military Board of Health, from November 1862, to May 20th, 1866. For the remaining ten months of 1862, I have procured from data at the Board of Health's office, and in the daily papers, reliable reports for the first six months, whilst for the remaining four months, July—October, no records have been found which justify anything more than an approximative estimate (from total deaths of thirty-five weeks known) of 6278 as the total mortality for the year. If there be an error in this, it inclines to an under, rather than an over estimation. The official records furnish, with as much precision as usual, the total civil mortality of the three years, 1863-65. From all the facts the following table has been constructed :

ADDENDUM TO TABLE No. 1. (See N. O. Journal of Medicine, Jan'y 1870.)

Years.	Total Population Estimated.	Total Deaths of Civil Population By Board of Health.	No. of Deaths in every 1000 Population.
1862	160,000	6278, Est'd.	39.2
1863	170,000	7306	43.
1864	180,000	8498	47.
1865	*200,000	7016	*35.
4 years, 1862-65	710,000	29098	41.

* If the population did not exceed 185,000, as I believe, the death rate was 38 per 1000 in 1865.

If the above estimates be deemed unacceptable, then it will be found that a maximum greater than ever claimed, (viz., 200,000 per annum) gives a death rate for the four years of more than 36. per 1000, and that the minimum population which may reasonably be claimed for the four years, (viz. 660,000), gives a death rate of more than 44. Thus it may be accepted as certain that the death rate during the war averaged from 36. to 44. per thousand population, and that 41. per thousand, as above given, is an acceptable average for the four years.

In order that the mortality in New Orleans during the war may be thoroughly compared with the mortality in preceding as well as in succeeding years, the three last columns (Annual Averages) of Table No. 23 are referred to. It is the only portion of the pages of figures which follow, to which the general reader's attention is especially solicited. For these three columns accumulate, as to a focus, the most important facts, and effectually dispose of some very positive, but erroneous assertions. To appreciate the information given, the following facts must be kept in mind. The first column of "Annual Averages" gives the annual average of the three years 1863-1865, and not of 1862, because it is for these three years only, that we have complete and reliable official records. The same reason has limited all of the tables given, Nos. 22, 23 and 24 to the same years. The second column gives the annual averages of the five years 1856-1860, the first five years immediately preceding the war, of which we have complete official records. The last column gives the annual averages of the four years which have elapsed since the war, the details of which, with 1870, will be published in a subsequent article. This comparison shows plainly, that notwithstanding the facts, that in the five years 1856-1860, there was one year (1858) of the next to the most fatal yellow fever epidemic on record; and that in the four years 1866-1869, there was an epidemic of cholera in 1866, and in 1867 of yellow fever, the third in fatality on record; yet the total annual average mortality of the three war years (non-epidemic) was actually greater than in the years preceding or succeeding them. Still farther and more important, that there were annually more deaths of females, more deaths of children under ten years of age, and more deaths of men over seventy years of age, during the war, than annually during the two other periods of time cited. Now, however unsatisfactory may be the estimates of population, no one can claim that the population of females, of children under ten years, and of men over seventy years, was greater during the war than during the years which both preceded and succeeded the war. Yet the mortality was greater. It should be remembered, as to the three columns of annual averages, that if with the three war years, there had been compared the

three years which immediately preceded the war, viz, 1859, 1860, 1861, and the three non-epidemic yellow fever years which immediately succeeded the war, viz, 1866, 1868, 1869; then in such case the comparison would have been, not slightly, but immensely to the disadvantage of the three war years. The official records then permit no discussion, and leave no doubt whatever that the civil death rate in New Orleans, during the war, was fully equal to the non-epidemic ante and post-beilum death rate. Among other facts of interest demonstrated by the tables, is the augmented mortality of negroes, doubtless due, in large degree, to an augmented population of negroes.

TABLE No. 22.

Mortality Report of New Orleans for the three years, 1863—1865.

(Nomenclature and Classification of the Royal College of Physicians, England.)

Population of New Orleans by the U. S. Census of 1860, was 168,675.

" " from 1863-65 supposed to have been 150,000 to 200,000

GENERAL SUMMARY FOR THREE YEARS, 1863-65.

Class. Order.	DISEASES BY CLASSES AND ORDERS.	Deaths in			Total Deaths 3 yrs 1863-65.
		1863	1864	1865	
1	* <i>General Diseases</i> A.....	1151	2105	582	4838
2	† " " B.....	1043	1140	922	3105
3	<i>Local Diseases</i> —				
1	Nervous System.....	807	971	1014	2792
2	Eye.....	0	0	0	0
3	Ear and Nose.....	0	0	0	0
4	Circulatory System.....	178	161	169	508
5	Absorbent System.....	0	0	0	0
6	Ductless Glands.....	1	0	0	1
7	Respiratory System.....	503	724	510	1741
8	Digestive ".....	2190	2352	1532	6074
9	Urinary ".....	37	44	36	117
10	Generative ".....	17	40	44	101
11	Locomotor ".....	1	2	3	6
12	Cellular Tissue.....	0	0	0	0
13	Cutaneous System.....	8	12	8	28
4	Conditions Unclassified.....	727	851	834	2412
5	Poisons.....	30	35	37	102
6	Injuries.....				
1	General Injuries.....	147	147	141	435
2	Local Injuries.....	†155	53	49	257
7	Surgical Operations.....	0	2	1	3
8	Parasites.....	2	8	12	22
9	Congenital Malformations.....	3	0	2	5
10	Conditions Unclassifiable.....	258	213	124	595
	Total Citizens and "Soldiers included".....	||7258	8864	7020	23142
	Total No., "Soldiers included".....	86	366	4	456
	Total No. Citizens, Soldiers excluded.....	7172	8498	7016	22686

* "Zymotic, apt to be Epidemic."

† "Constitutional, apt to be inherited."

‡ 133 of these 155 were "Gunshot Wounds."

|| Report of 2d week, August 1863 defective—Only 2 Cemeteries out of 15 to 20 sent in Reports, giving only 24 deaths for 2d week, whilst there were 177 deaths in the 1st, and 158 in the 3d week Augt. Not less than 134 deaths should be added to supply this deficiency; thus making total deaths of citizens in 1863 not less than 7306.

TABLE No. 22—Continued.

DETAILED REPORT OF THE PRECEDING GENERAL SUMMARY.

Class.	O. der.	DISEASES.	1863	1864	1865	Total 3 years, 1863-65.
1		Small Pox and Varioloid.....	2	605	613	1220
		Measles.....	98	34	31	163
		Scarlet Fever.....	43	200	161	404
		Diphtheria.....	188	337	104	629
		Whooping Cough.....	55	39	13	107
		Gangrene.....	19	11	9	39
		Erysipelas.....	15	26	20	61
		Puerperal Fever.....	12	11	18	41
		Pyæmia.....	8	4	2	14
		Typhus Fever.....	9	11	5	25
		Typhoid ".....	257	268	154	679
		Brain and Nervous Fever.....	33	48	26	107
		" Fever ".....	75	25	17	117
		Malarial Fever.....	145	164	132	441
		Congestive Fever.....	110	194	169	473
		Pernicious Fever.....	79	122	105	306
		Yellow Fever.....	2	6	1	9
		Other Diseases of this Class.....	1	0	2	3
		Total of General Diseases A.....	1151	2105	1582	4838
2		Rheumatism.....	15	18	16	49
		Gout.....	2	2	2	6
		Syphilis.....	3	11	5	19
		Cancer.....	46	66	57	169
		Tumors.....	7	2	2	11
		Leprosy (Elephantiasis).....	0	1	0	1
		Scrofula and Tab. Mesent.....	36	21	21	78
		Phthisis Pulmonalis.....	761	839	664	2264
		Purpura and Scurvy.....	5	9	4	18
		Anæmia.....	15	23	35	73
		Dropsy.....	133	148	116	417
		Total General Diseases B.....	1043	1140	922	3105
3	1	" Disease of Brain ".....	4	10	0	14
		Congestion of Brain.....	81	111	97	289
		Encephalitis.....	57	47	62	166
		Meningitis.....	44	58	71	173
		Softening of Brain.....	13	11	13	37
		Apoplexy.....	61	75	100	236
		Sun-stroke.....	6	1	22	29
		Hydrocephalus.....	20	20	26	66
		Insanity.....	9	7	7	23
		Diseases of Spine.....	7	5	7	19
		Paralysis.....	28	35	37	100
		Tetanus.....	74	85	109	268
		Tri-mus Nascentium.....	79	137	125	341
		Convulsions Adult.....	29	12	18	59
		" Infantile.....	265	296	275	836
		Epilepsy.....	25	55	43	123
		Hydrophobia.....	2	1	0	3
		Catalepsy, Hysteria.....	0	3	1	4
		Neuralgias, "Nervousness".....	3	2	1	6
		Total Diseases Nervous System.....	807	971	1014	2792

TABLE No. 22—Continued.

Class. Order	DISEASES.	1863	1864	1865	Tot'l d'ths 3 years, 1863-65.
3 4	"Disease of Heart."	142	135	130	407
	Perocard- and Endocard-itis.....	5	5	8	18
	Angina Pectoris.....	6	1	0	7
	Aneurism.....	6	7	4	17
	Cyanosis.....	4	5	2	11
	Hæmorrhage.....	12	7	23	42
	Other Diseases of Circulatory System.....	3	1	2	6
	Total Diseases Circulatory System.....	178	161	169	508
3 6	Goitre.....	1	0	0	1
3 7	Laryngitis.....	0	0	2	2
	Croup	64	90	46	200
	Catarrh.....	26	48	32	106
	Bronchitis	60	84	62	206
	Asthma and Emphysema	13	18	28	59
	Pneumonia	282	417	287	986
	Abscess and Gangrene of Lungs.....	1	4	1	6
	Congestion of Lungs.....	24	32	17	73
	Hæmoptysis.....	14	12	13	39
	Pleurisy	9	16	16	41
	Hydrothorax.....	10	7	6	23
	Total Diseases Respiratory System	503	728	510	1741
3 8	Angina—Inf. Throat and Tonsils.....	71	158	56	285
	Teething	104	214	164	482
	Cholera Infant.....	68	80	79	227
	Hæmatemesis.....	12	4	1	17
	Inflammation Stomach and Bowels.....	303	351	315	969
	Cholera, Cholera Morbus and Colic.....	38	62	51	151
	Diarrhœa.....	1126	913	425	2464
	Dysentery	328	432	292	1052
	Entero-Colitis.....	36	27	32	95
	Hernia	5	5	3	13
	Inf Congest. and "Diseases" of Liver...	38	47	50	135
	Abscess of Liver.....	8	8	10	26
	Cirrhosis.....	2	13	16	31
	Jaundice	16	6	7	29
	Peritonitis.....	26	23	24	73
	Other Diseases of Digestive System.....	9	9	7	25
	Total Diseases of Digestive System.....	2190	2352	1532	6074
3 9	"Disease," Inf. Kidney, Albuminuria....	28	28	27	83
	Inflammation of Bladder	7	10	6	23
	Other Diseases of Urinary System.....	2	6	3	11
	Total Diseases of Urinary System.....	37	44	36	117
3 10	Inf. Uterus and Ovaries.....	3	13	9	25
	Hæmorrhage from Womb.....	3	3	4	10
	Difficult Parturition.....	5	10	8	23
	Puerperal Convulsions.....	3	7	18	28
	Other Dis. of Female Generative System..	3	7	5	15
		17	40	44	101

TABLE No. 22—Continued.

Class.	Order.	DISEASES.	1863	1864	1865	Total of this 3 years, 1863-65.
3	11	Inflammation and Ulceration of Bones.....	0	1	2	3
		Psoas, Lumbar, and Pelvic Abscesses.....	1	1	1	3
		Total Diseases Locomotory System	1	2	3	6
3	13	" Disease of Skin,"	2	0	1	3
		Carbuncle (Anthrax)	0	1	1	2
		Penphigus	1	0	2	3
		" Abscess "	0	8	2	10
		" Ulceration "	5	3	2	10
		Total Diseases Cutaneous System.....	8	12	8	28
4		" Conditions " not necessarily associated with General or Local Diseases :				
		Premature Birth.....	60	90	80	230
		Still Born	248	298	321	867
		Debility Infantile	25	65	60	150
		Marasmus "	173	177	183	533
		" Adult	27	17	30	74
		Debility "	87	75	69	231
		Old Age.....	72	96	65	233
		Atrophy.....	15	18	18	51
		Inanition.....	20	15	8	43
		Total Diseases of this Class	727	851	834	2412
5		Poisons.....	0	0	4	4
		Delirium Tremens and Intemperance.....	30	35	33	98
		Total of Poisons.....	30	35	37	102
6	1	Drowned	61	67	71	199
		Asphyxia and Suffocation.....	16	12	9	37
		Burns and Scalds	21	24	16	61
		Exposure, Privation, Want	4	2	3	9
		Killed accidentally	24	30	19	73
		Killed or Murdered.....	12	5	9	26
		Suicide	6	6	10	22
		Other General Injuries.....	3	1	4	8
		Total of General Injuries..	147	147	141	435
6	2	Wounds	8	1	15	24
		" Gunshot	133	33	9	175
		Compression and Concussion of Brain.....	6	7	10	23
		Fracture of Skull and Spine	4	7	11	22
		Other Local Injuries.....	4	5	4	13
		Total Local Injuries.....	155	53	49	257
7		" Amputation "	0	2	1	3
8		" Worms"	2	8	12	22
9		Congenital Malformations.....	3	0	2	5
10		Diseases Unclassifiable, Unknown, etc....	258	213	124	595
		Grand Total of all Diseases.....	7258	8864	7020	23142

TABLE No. 23.

Deaths by Nativities, Races, Sexes, Ages, during the three years 1863-64-65 also the Annual Averages of such deaths, during these 3 Years, compared with the Annual Averages during the five years preceding, and the four years succeeding 1863-1865.

	1863	1864	1865	Total for 3 Years 1863-65	Annual Averages of the		
					3 Years 1863-65	5 Years 1856-60	4 Years 1866-69
Total Deaths.....	7258	8864	7020	23142	*7714	7427	7298
<i>Deaths by Nativities.</i>							
Born in United States.....	3342	4345	4047	11734	3911	†[4041]	4103
Foreign Born	1274	1500	1477	4251	1417	[2707]	2007
Not Stated.....	2642	3019	1496	7157	2386	[1124]	1188
<i>Deaths by Races</i>							
Whites	5015	6032	4688	15735	5245	†6327	5027
Blacks and Mulattos.....	1735	2332	2231	6798	2266	1100	2023
Not Stated.....	508	.....	101	609	203	.....	248
<i>Deaths by Sexes.</i>							
Males	4405	4895	3846	13146	4382	4535	4185
Females	2578	3739	2963	9280	3093	2792	2873
Not Stated	275	230	211	716	239	100	240
<i>Deaths by Ages.</i>							
Under 1 year.....	952	1365	1375				
1 to 2 years.....	694	806	578				
2 to 5 "	643	962	624				
5 to 10 "	279	595	446				
<i>Total from</i>							
0 to 10 years	2568	3728	3023	9319	3106	3072	2816
10 to 20 "	411	535	383	1329	443	396	402
20 to 30 "	782	803	650	2235	745	1308	1022
30 to 40 "	725	780	728	2233	744	1108	900
40 to 50 "	595	717	649	1961	654	712	685
50 to 60 "	367	600	495	1462	487	350	491
60 to 70 "	236	358	301	895	298	187	305
70 to 80 "	155	183	159	497	166	98	145
80 to 90 "	84	110	66	260	87	52	57
90 to 100 "	37	38	34	109	36	19	21
Over 100.....	14	21	12	47	16	5	11
Not Stated.....	1284	991	520	2795	932	120	443

* An. Av. of *Citizens*, 7607.

† An. Av. for the 4 years 1857-60.

‡ The An. Av. White Deaths for the 4 years, 1856-60 excluding the yellow fever epidemic year 1858 was 5267.

Monthly Report for three years (Nov. 1862—Oct. 1865 both included) Consolidated.

N. B.—This Report differs from Tables Nos. 22 and 23 in two respects: 1st. The defect in the report of second week of August, 1863, has been corrected by adding 134 deaths to this month. 2d. Nov. and Dec 1862 having 1491 total deaths, have been substituted for Nov. and Dec. 1865 having 1093 total deaths.

No. of wks. in the 3 mos.	12 wks.		13 wks.	14 wks.	12 wks.	13 wks.	14 wks.	12 wks.	13 wks.	14 wks.	12 wks.	13 wks.	14 wks.	6 months	12 months.
	Nov.	Dec.	Jan'y.	Feb'y.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	May-Oct	Total 3 yrs.
Monthly mortality of—	1806	1806	1765	1451	1410	1777	1699	2217	2555	2049	2110	2285	12315	77	228 9
Citizens alone.	1	1	9	39	86	157	388	53	11	3	5	4	4	4	465
*No. soldiers included.															
Total Citizens & Soldiers	1807	1774	1774	1724	1537	1934	1922	2228	2558	2050	2115	2289	12392		23274
Yellow Fever.....	1	1	1	...	...	...	2	...	...	1	2	4	7	7	9
Malarial Fever.....	82	51	41	...	35	51	288	97	152	167	252	198	920	1208	
"Fever" and "Brain"															
"Nervous Fever".....	16	14	7	...	13	6	63	24	48	12	21	40	169	223	
Typhoid Fever.....	45	45	42	36	34	49	251	36	67	81	73	97	436	687	
Small Pox.....	56	142	166	176	177	163	860	90	66	36	30	26	333	1213	
Scarlet Fever.....	14	21	31	43	26	34	169	43	59	58	46	17	14	237	406
Measles.....	4	8	18	11	22	25	88	18	22	13	9	6	8	163	163
Diphtheria.....	70	42	47	24	23	41	247	52	60	68	89	92	384	631	
"Angina" and Int.															
Throat and Tonsils.....	14	19	19	27	17	20	116	11	20	25	41	42	167	293	
Phthisis Pulmonalis.....	214	173	196	216	196	196	166	173	196	140	187	215	177	177	2253
Congestion of Brain.....	13	21	10	16	18	95	105	35	30	40	25	26	176	284	
Eucerephalitis & Men gitis	13	21	14	19	26	35	128	35	47	32	43	36	209	337	
*Apoplexy.....	13	19	21	23	17	27	121	20	13	22	19	11	167	227	
Tetanus.....	22	23	21	19	35	16	125	15	16	22	21	31	128	253	
Trismus Nascent.....	34	41	31	27	21	19	171	16	30	23	33	33	168	339	
Convulsions Infant.....	51	49	47	33	49	70	299	71	103	53	85	78	532	831	
"Di-ense of Heart"	37	44	37	31	34	48	231	34	92	33	36	37	206	437	
Croup.....	20	23	22	15	11	16	107	6	13	23	22	28	89	196	
Bronchitis and Catarrh.....	26	37	34	33	33	58	188	19	13	23	37	26	137	325	
Pneum. & C'ug st. L'ugs	75	96	143	136	116	139	695	65	51	63	49	84	369	1055	
Teething.....	3	22	13	12	16	24	117	46	58	39	48	50	370	487	
Cholera Infant.....	7	5	8	1	7	18	46	52	58	58	13	8	178	224	
Inf. Mucos. & Debilis	36	46	35	19	26	44	2	6	99	66	60	79	451	657	
Still Born & Prem. Births	85	91	86	79	69	81	401	66	82	90	87	96	506	157	
Inf. Stomach & Bowels	63	48	68	33	53	82	344	116	129	142	93	86	393	640	
Diarr'oea, Cholera Chol.															
era Morbus, Colic	303	198	162	114	118	185	1070	308	355	241	282	316	1632	2692	
Dysent'y, Enterocolitis	97	87	39	39	52	70	384	93	129	168	116	123	137	137	
Diseases of Liver.....	13	12	22	14	21	16	98	23	24	19	18	17	118	216	
Totals of above Diseases.....	1423	1399	1378	1211	1241	1528	8210	1847	2119	1589	1760	1921	1611	1821	
" of all other.....	323	328	319	269	254	339	1832	297	385	285	33	305	19 9	3741	
" Diseases unknown.....	31	47	27	57	11	67	240	69	64	176	52	64	472	712	
Grand total Citizens & Soldiers.....	1817	1774	1794	1537	1516	1934	11282	2228	2558	2050	2115	2289	12392		23274

* Of the total deaths, 465 of Soldiers during the three years, 338 occurred in the four months, February—May, 1864. 674 occurred in the four months, December, 1864—March, 1865.

† Of " " " 1213 of Small Pox and Varioloid during the three years 724

‡ Of " " " 694 occurred in the four months, December, 1864—March, 1865.

§ Of the total deaths, 631 of Diph. hevia during the three years, one-half occurred in the seven months, April, 1864—July, 1865.

¶ Of " " " 283 of " " " etc., during the three years, the deaths occurred chiefly in 1863 and 1864, during the half years, June—November.

** Of the total deaths, 227 of A. p. plexy during the three years, one than, double the monthly average occurred in August, 1865, when occurred 18 deaths out

And of these 724

The records of the Charity Hospital for the four years, 1862-65, will complete all the statistical facts known to me, bearing upon the vital statistics of New Orleans during this time. The admissions for these four years were 22,296 or an annual average of 5574, which is considerably less than for the years immediately before and since the war. This diminution was due in greater part, to pecuniary and economical causes. The total deaths were 2891, or an annual average of 723. This gives a mortality of 1 in every 7.7 cases, in comparison with one death in 8 cases for the six years immediately preceding the war (1856-61), and with one death in every 7.6 cases for the four years immediately succeeding the war (1866-69). These facts fail to indicate any diminution in the fatality of diseases during the war.

Sanitary condition of New Orleans 1862-65.

Two facts, so-called, have been stated, each of which demands investigation. Was the Quarantine "impregnable;" and is it indisputable that "so clean a city had never before been seen upon the continent"?

Quarantine.—Dr. Fenner writes, "In this, we learn, Dr. Harris was misinformed. Vessels of war were rigidly quarantined; but vessels for transportation were not. *Military necessity* sometimes required their admission at all hazards, and thus the disease was introduced on several occasions." Now, Dr. J. C. Faget, who of the three was the only one present in New Orleans, and in a semi-official position, reports: "La Quarantaine n'a existé cette année, 1864, que contre la marine marchande; elle a été nulle pour la marine militaire."

Hygienic Cleanliness of the City.—There is evidence enough to establish that New Orleans was kept in much cleaner condition than it ever had been before, or has been since. As clean perhaps as an "efficient sanitary police" could keep it. However, Prof. Warren Stone asserts from personal observation, that the cleanliness evident in the best portions of the city was much less manifest in the rear, where live the poorer and larger number of the inhabitants; and Dr. J. C. Faget wrote, June, 1863, "cette année,

1863, les *conditions locales* et atmosphérique, demeurent, comme toujours, «ffrayablement favorable à l'éclosion du fléau." But leaving aside all contradictory evidence, it is well to recall that the objects of civic cleanliness are to secure purity of water and air; and that, since New Orleans drinks river water, the benefits to ensue here from cleanliness are reduced to the single and all important one of maintaining the purity of health-giving air. Therefore the question is, whether a sanitary police however efficient, can possibly secure this good in a city, where its innumerable privies are all underground with floating contents close to the surface; where the drainage is a most wretched specimen of the wretched system of superficial drainage; where the sewerage is, by this fact, necessarily bad; where near at hand on every side are malarial swamps, neither drained nor yet kept covered with water; and where heat and humidity, the hand-maids of decomposition and putrefaction, ever prevail to notable extent? That an "efficient sanitary police" can and did diminish the aerial adulteration is not doubted, but it is beyond the power of human skill to determine the extent of this diminution; and the facts already given establish conclusively that the extent was too slight to demonstrate that any benefit whatever was conferred on the women, the children under ten years, the men over seventy years, and even on any portion of the whole population remaining in New Orleans. Notwithstanding this, common sense, medical experience founded on hundreds of years, suffice to establish the fact that benefit was and always is conferred by an efficient sanitary police. Whenever the proof of this fails, as in the present case, it can be answered with absolute assurance, that however bad the health may have been with, it certainly would have been worse without such a police.

In concluding this portion of my subject (the record and evidence of facts), I may add that neither in the climatic and meteorological conditions of this city during the war was anything exceptional observed, nor were there any conditions whatever other than those already mentioned, at all unusual.

ERRONEOUS ASSERTIONS AND CONCLUSIONS RECTIFIED.

It is not the purpose of these articles to discuss theories. It is a duty, however, to call attention to incorrect assertions and false conclusions which have led astray not only the public, but also the profession. Amidst assertions and conclusions the fact remains indisputable, that yellow fever existed in New Orleans during every year of the war, but in no year became epidemic. In explanation of this apparently exceptional fact, it is boldly asserted and widely credited that :

1. The Quarantine was "impregnable."
2. "So clean a city was never before seen on this continent."
3. The mortality by all diseases was much diminished.

The conclusions are that the diminished mortality, and the epidemic exemption were due especially to the exceptional cleanliness. Such is the position of a very large party, which has Dr. Elisha Harris as its fullest historian, and ablest representative; others have only repeated his assertions and conclusions. For this reason alone, certainly from no personal motive, or lack of proper respect, his views will be considered, and his party answered through him.

This answer is begun, with the emphatic, but not willingly discourteous accusation, that Dr. Harris has been guilty, no doubt unintentionally, of exaggeration of facts, suppression of truths, suggestion of falsehoods, and conclusions not logically deducible from the true premises. I proceed in the interest of science, which is always the vindication of truth, to prove the justice of the accusation; reminding the reader, that Dr. Harris and that party obtained their *few* statistical facts from the very same sources from which I, in this and the preceding article, have given *all* the facts, viz., from the official records and reports of the Board of Health.

1. Example of exaggeration of facts. Dr. Harris says, that the deaths in the seven weeks, July 26th to September 13th, 1863, were 1159, the deaths in the eleven weeks, June 25th to September 10th, 1865, were 1691; and implies July 1865, that the civil population, even in 1865 when at its maximum, was less than

200,000. He says, "New York [an example not to be envied by any healthy city] cannot boast a lower death rate for the same period"; and page 11 (N. Y. Report of Metrop. B. of Health, 1866) he says, that the death rate of New York in 1863 was "31.25 in 1000," and in 1865 "30.3 in 1000." Now, the number of deaths in New Orleans, for the limited time given as above by Dr. Harris, indicates, (even on the exaggerated supposition that the civil population was, more than he claims, 200,000,) a death rate of 43 in 1000 for 1863, and of 40 in 1000 for 1865. If the mortality for the whole year be taken, the death rate was, under the most favorable suppositions, not less than 39 in a 1000 for 1863, and 35 in a 1000 for 1865. Thus Dr. Harris' figures prove his own assertion to be exaggerated; and that New York did have a lower death rate for the same period.

2. Not satisfied with this exaggeration, Dr. H. exclaims "compare this [the number of deaths above given for 1863-5] with the mortality in that city [New Orleans] in August 1853, when 6201 of the inhabitants died." As well visit an eight feet giant, and then denounce every man of five and a half feet as a dwarf! "Or compare with the average mortality of the three years 1853, 1854 and 1855, which gave more than 1000 deaths per month, though the population was far less than during the past summer." Why should an earnest seeker for the whole truth have gone so far back as 1853, why should he select for comparison the three consecutive years of greatest fatality in the history of New Orleans, and why did he not select by preference the three years immediately preceding the war, and therefore best illustrative of his subject? It is true that, 1853-5 strongly favor that which 1859-61 totally defeat the theory he advocates. In the above quotations, as in the one which follows, he is convicted not only of exaggeration and suppression of facts, but also of the suggestion of what is false. He says of yellow fever, that "that enemy and pest of the city had been wont to destroy its thousand victims *every* year, and *sometimes* to kill no less than 5000 in a single month." Associate this with his previous statement "in August 1853, when 6201 of the inhabitants died," and what reader would imagine the facts as they are? The whole truth is, that

in August 1853 there did die 6201 inhabitants, of which 6201 there were over 5000 by yellow fever. Both the 6201, and the 5000 belong to the same month, the latter being a part of the former; and so far is it from being true that 5000 "died *sometimes* in a single month," the fact is, that nothing at all comparable ever occurred in any other month from the origin of this city to the present day. The nearest approach to anything similar was 2204 yellow fever deaths in September 1858. Take all of the 216 months in the eighteen years 1844-61, and there were but twelve months in which the yellow fever mortality exceeded even 500, and these twelve months were all parts of only five of the eighteen years, viz., 1847-53-4-5-8. The other portion of his statement that yellow fever "had been wont to destroy its thousand victims *every* year," is so notoriously false, that it would be waste of time to reply farther than has been done in previous pages. However, taking the eighteen years referred to, it is true that the five epidemic years in these eighteen years did destroy a number sufficiently large, to make an annual average of over 1300 yellow fever deaths.

Let the historical facts given be compared with Dr. Harris' assertions, and if these latter be judged to be a correct representation of the former, then I am willing to grant any conclusions whatever from premises so stated, even that a horse-chesnut is a chesnut-horse.

3. Believing that my accusation of the "*suppressio veri, suggestio falsi*," has been indisputably established, I proceed to prove that Dr. Harris has been guilty of a conclusion not logically deducible from the true premises. Avoiding tedious quotations, here is his syllogism in brief: New Orleans has for many years been desolated by yellow fever epidemics which destroyed "every year its thousand victims," and "sometimes 5000 in a single month," and during this time it has been a notoriously filthy city. In the four years 1862-65 it was exempt from epidemics, and was the cleanest city ever before seen on this continent. Therefore, concludes Dr. Harris, it owed its unusual exemption to its unusual cleanliness. Now, with equal brevity, I will state the correct syllogism with the true premises.

New Orleans enjoyed during eight years, 1859-66, an exemption, unexampled in her history, from yellow fever epidemics. During four of these eight years, viz., 1859-60-61-66, the city suffered notoriously with its habitual filth, and during the four remaining years, viz., 1862-65, it enjoyed an unusual degree of cleanliness. Therefore, — — — — — what? Enough! quite enough to prove, that, even if Dr. Harris' conclusion were an absolute truth, yet such conclusion is not logically deducible from his own, much less from the true premises. To justify this conclusion at least one other fact must be introduced into the premises, viz., that a yellow fever epidemic never has prevailed in any place as clean as New Orleans was during the four years, 1862-65. The student of yellow fever literature knows well that we have abundant assertions, and evidence as good as Dr. Harris', to the contrary. The "marble promontory" of rock-bound Gibraltar suffered a terrible epidemic in 1804, and also subsequently; Port du Passage, "remarkable for its salubrity," was devastated in 1823; etc. Can it be believed, that a "sanitary police," however efficient, could purify the air in New Orleans, as much as even unaided Nature accomplishes in these and other places where yellow fever epidemics have occurred?

Those who have adopted the views prevalent as to the exemption of New Orleans from yellow fever epidemics during the war, and who are disposed to press the pertinent, but unanswerable question, why, being present did yellow fever not become epidemic, especially in 1864, have apparently omitted all consideration of the many previous non-epidemic years. Let this omission be supplied by furnishing, as one example out of many, the history of yellow fever in 1857, which is in some respects strikingly similar to that of 1864. I submit brief extracts from the "Annual (official, published) Report, 1858, of Dr. A. F. Axson, President Board of Health, New Orleans."

"It will not fail to be noticed that the mortality from yellow fever (1857) runs up to a figure of 199, against 74 in 1856, and 2670 in 1855. How this fever originated, whether from the operation of causes natural to our locality, or by its introduction from

abroad, it is difficult positively to state." The first unquestionable death "was not until the 20th September," the patient had lived to September 12th on Girod street. "It is well known that nearly the whole mortality occurred within a comparatively narrow strip of the city, and occurred too in houses contiguous to each other and occupied by a class of persons, whose intercourse is regulated by none of the conventionalities obtaining among those living under different social necessities." Singularly enough, this "comparatively narrow strip of the city" to which the disease was confined, is nearly the same locality as the Naval Hospital of 1864, viz., "New Levee, Tchoupitoulas and Girod streets;" Girod street being less than a half mile lower down the river than Erato street. Now, what was the condition of this "comparatively narrow strip" in 1857? "There were no reeking offals, no vegetable and animal remains, no heaps of putrefying matter, no overflowing privies, no excessive dampness under foot in the quarters or rooms, or in the atmosphere, and no over-crowding." "In truth so exceptional — — was the appearance presented by this locality, that the Mayor— declared it to be singularly cleanly." And now, what was the condition of the city at large in 1857? The official report says that the lack of cleanliness was such as "would be shocking to the eyes of one accustomed to the filth of Constantinople or Cairo. Streets uncleaned for weeks together, two of our largest hotels pouring the contents of their privies into one of the main thoroughfares of the city, with the ceaseless resources of the Charity Hospital, swelling the stifling current, gutters choking with filth, or else emptying themselves by municipal authority into vacant lots and unpaved streets, canals seething and bubbling with their putrid waters were the customary spectacles greeting the senses in all quarters; and yet the fever appeared and lingered, with few occasional exceptions, in a portion of the city, which, in the language of the Mayor, presented "an unexpectedly clean condition." "If infectiousness were a property resulting from filth and putrescent organic matter, the whole city was a laboratory for its generation, unsurpassed in magnitude and extent, and yet, over its entire length and breadth, the

fever was confined to a narrow strip presenting an exception to the aspect of general immundicity." Under such local conditions, only some 200 deaths occurred, which indicates not less than 500 cases, each producing contagion say some, or endless quantities of fomites say others; and yet these 500 manufactories did not produce an epidemic in a city which was as filthy as described, and contained so many of the unacclimated, that in the very next year, 1858, the yellow fever carried 4855 victims to the grave.

If a sanitary police saved us in 1864, and the other war years, what saved us in 1857 and other non-epidemic years, before and since the war? "*La seule preuve, qu'un phénomène joue le rôle de cause par rapport à un autre, c'est qu'en supprimant le premier on fait cesser le second.*"

Notwithstanding the weight due to the facts now stated, there are others to be considered, before Dr. Harris' hasty conclusion could be accepted. Among these, there is no need to go as far even as Philadelphia to illustrate, that of which there are innumerable examples, that yellow fever has gradually and mysteriously abandoned certain localities which had long been subject to its frequent visitations. There have been intervals in various such places of ten, twenty, fifty years, between its visits; whilst in the mean time a defective sanitary police has been, by no means improved, and whilst a "wide-spread epidemic tendency" has repeatedly prevailed. It has suddenly appeared and domiciliated itself, so to speak, in old and populous cities where there had been no appreciable change in any local conditions. All this, and much more was well known to our predecessors and has been repeated ad nauseam, but without solving that mystery which Gen'l Butler and others got out of, and Dr. Harris and many others in the profession have utterly failed to solve.

No one deplores more than I, that Dr. Harris' conclusion is not logically deducible from the true premises. Would that it were proved that the dire scourge could be driven by "an efficient sanitary police" beyond our borders! Yet, let it not be understood for a moment, that I would willingly utter one word against sanitary regulations, or fail to advocate with all my

power, drainage, sewerage, paving, and an efficient sanitary police as indispensable to the prevention or mitigation of all diseases, and therefore to the welfare of this city. As to these unquestionable benefits, I may say to Dr. Harris, that—

I am "with him upon this theme,
 Until my eyelids will no longer wag ;"
 "'Swounds show me that thou'lt do :
 Woo't weep ? woo't fight ? woo't fast ? Woo't tear thyself ?
 Woo't drink up eisel ? Eat a crocodile ?
 I'll do't."

But I will not do ill that good may come—will not torture nature to half-utter the *few* words I may wish to dictate, but humbly bend a listening ear to *all* those which flow voluntarily from her teaching lips.

CONCLUSION.

Thus far it has been attempted to establish and illustrate historical facts. These facts furnish evidence upon certain questions which have ever been involved in professional discussion. On these doubtful subjects I shall now venture to briefly present some of my *opinions*.

1. *Origin of yellow fever.*—In 1864 the first cases occurred, therefore the disease originated on various vessels, some at anchor in front of New Orleans, and others several miles distant from the city. The rigid Quarantine failed to discover any cases whatever, elsewhere than from New Orleans. The closest observation of the medical and other U. S. officers, exercised under the great advantage of the strictest military and naval discipline, failed to trace any cases to any foreign or exotic infection. These facts strongly confirm the opinion long and ably upheld in this city, that yellow fever is one of our own domestic products, and that New Orleans is very certainly within the "Yellow Fever Zone," whatever the limits of such Zone may be. This evidence also indicates for the poison a choice of birth-place in vessels, and says Dr. Faget in their *holds*; as is known there is much other evidence to the same effect.

2. *Contagion.*—Our more recent text books, particularly the English, French, and German, influenced greatly by the Southamp-

ton and St. Nazaire accounts, teach that yellow fever is contagious. It is well then to recall some familiar local facts for the benefit of those who found their conclusions on these, rather than on the opinions of others, however distinguished. These facts have been denounced as negative in character, and therefore without weight against such positive facts as have been credited. I respectfully submit that the negative facts occur generally, and that, if the positive facts occur at all, they are altogether exceptional. Such apparent exceptions cannot justify us in ignoring the general rule.

During the past eleven years, cases of yellow fever have been present in New Orleans not less than ten years; in one year only (1867) the disease spread or became epidemic. During the fifty past years, the New Orleans Charity Hospital has annually (three or four exceptions only) received cases of yellow fever. (See table No. 4, Article No. 1, January No. 1870, N. O. Med. Journal). Notwithstanding these annual cases, whether domestic or imported, the many different house surgeons and visiting physicians endlessly repeat that there has been no evidence of the transmission of the disease to the unacclimated in the same ward, though watched for weeks after exposure; no cases originating in the Hospital unless the disease prevails in the neighborhood surrounding the Hospital. In 1853 when I was Resident Physician of the U. S. Marine Hospital, then located opposite the city, more than 100 *unisolated* cases of yellow fever had been present for more than a month before a single case originated in the Hospital; and when this occurred the disease, gradually ascending the river's bank, had gained and was prevailing in the residences near to the Hospital. During the same year, one case of variola was admitted, at once isolated and in less than a month there had been twelve cases with three deaths, and this limit was secured by vaccination. Hundreds of cases are recorded, thousands known, of persons contracting yellow fever in New Orleans, and dying even a few miles from the city, without communicating the disease to any one whatever. Many of our most honored and experienced physicians (even after forty years' observation) assert that this is a rule to which

they have never seen a single exception, and none deny that it is, beyond all question, the general rule. Such facts as these are annually observed in this city and when multiplied by the same facts occurring elsewhere, amount to uncountable myriads. So that it is useless to weary the reader with prolix details, illustrating facts, which time has so augmented the strength of, that theories which discard their consideration, must stagger under their weight; and can be accepted by those only who know yellow fever in books, and not at the bedsides of its native land. No intelligent physician, experienced in the yellow fever of New Orleans can possibly grant more than, that if yellow fever be contagious here, then it is only so in rare and exceptional circumstances, and due to unusual and unknown conditions. Teach contagion if you will; but if you would merit a permanent reputation, let it be only the introduction of your chapter which explains those general instances of contagious failure which are certainly very much more numerous, than any disease known to be contagious ever presents. An explanation is demanded which will justify us in supposing that a disease may be contagious generally on ships, but never (certainly not generally) contagious in hospitals and jails; often violently contagious (?) in one special season only of the year, but never so in other seasons.

If it be granted that the yellow fever of New Orleans may or does come from local causes, is there any system of reasoning which justifies or renders necessary the introduction of another cause to account for the same effect? Human experience teaches that correct judgment is not frequent, and correct observation still less so; and that others may be amenable to this criticism as well as ourselves. In fine, if a conclusion as to the unknown is to be reached through what is known, then it is a very safe conclusion, that the poison of yellow fever does not manifest itself as those poisons do, which we know to be contagious.

I find difficulty in comprehending the distinction which is apparently made between the non-contagiousness of a patient in his clothes, and the portability of the disease by the same clothes. It is readily comprehensible that if the poison be generated in

any place, say the hold of a ship, it will attack all liable to it who may expose themselves to such *place*, just as the malarial poison manifests itself; and that when the place moves, as a ship does, then the poison in her moves too, and is thus portable.

3. *Quarantine*.—As to Quarantine, and all practical sanitary questions involved in professional discussion and doubt, the public is perfectly justifiable, even praiseworthy, which acts upon the safe side of the doubt. Quarantine laws are then perfectly defensible, however false may be the theory upon which they may be based; *provided that* their execution be practicable, satisfactorily enforced, and presents any evidence whatever that benefit has ensued. If the New Orleans Quarantine has any one important object, it is to keep out of the city all cases of yellow fever, which after nineteen years trial it has never accomplished in a single year. Even the “impregnable” war Quarantine, so much superior to anything which, in my estimate of republican civil government, can be possibly hoped for again, failed every year of the four. If any benefits have ensued, I fail to comprehend them. The execution of our Quarantine laws has been such, that it is constantly denounced by the very persons who make, execute, and advocate them. Ought not the opponents of Quarantine to be spared the explanatory apologies, which its advocates are annually so profuse of? Consideration is due the following remarks (Nov. No. 1866 So. Jour. Med. Sciences) as to the practicability of Quarantine, “Is it true that disease travels only over the sea—over salt water? Does disease shun transportation by rivers, railroads and dirt roads? Under every practical view this is the decision of our Board of Health.” “The front doors are half opened, the back doors are all left wide open, and the public is asked to believe that the city is Quarantined.” “Quarantine is impossible. The fitful voice of communities is both for and against it; and it is just as absurd to attempt to enforce Quarantine, as to enforce gambling laws or “Maine liquor” laws. The weakness of man will not admit of Quarantine being enforced.” I will not insist that, because in any special matter, perfection is not reached, therefore no good at all is obtained; but I do insist that, even accepting the views of the advocates of

Quarantine, its injuries are certain, its benefits most uncertain. Therefore common sense dictates that New Orleans should invest its money in, and insist upon those sanitary means whose benefits are certain, all good and no evil; and about which neither doctors nor outsiders disagree. Advocates of Quarantine have at least one strong argument in their own favor, it supplies many with a means of livelihood.

4. Sanitary Improvements are glaringly deficient in New Orleans, and are a certain means to unquestionably good results. For the accomplishment of these it should be a matter of comparative indifference to the public, whether they present or not an easy mode to rid the city of yellow fever epidemics; for on this subject contagionists and non-contagionists, quarantinists and anti-quarantinists, ex-rebels and radicals, cordially shake hands, and endorse it with unanimous approval. If exemption from yellow fever should result, so much the better; if not, we would still be left with abundant reason for rejoicing. My own decided opinion is that the "swamp" poison, annually present, causes more suffering, disease and death in New Orleans, than even the yellow fever poison, which is only occasionally present. This greater enemy can certainly be vanquished by sanitary improvements.

5. *Questions.*—What is the poison of yellow fever, under what conditions is it generated, how is it propagated, and what limits it in most years and places, but extends it in other cases to epidemic manifestations? Notwithstanding very much professional talent and labor, and much professional pretension, these questions remain unanswered. Additional facts must be discovered, and science extend its boundaries before the wearisome discussions of doctors can confer any substantial benefits on the public. Much said and written on these questions recalls the reply of a physician most familiar with our epidemics to one of less experience, "every doctor who has seen one epidemic thinks he knows all about yellow fever, whilst those who have seen many do not pretend to know anything." No need to go to European or Northern cities, but only step out of any door in New Orleans in order to find some one in sight and ready to answer,

satisfactorily to himself at least, questions which the wisest physicians refuse a reply to. For instance, will we have an epidemic this season, is demanded at the street corners? Whoever attempts to reply, as many do, is guilty of that irritating ignorance which is unconscious of its own ignorance. All our knowledge justifies only such prognosis as a robust man would receive as to the date of his death—every year without it is a year nearer to it!

Prophets and “bright lights” without number have, here in New Orleans, sprung from even the floor of the Representative, the sanctum of the editor, the office of the lawyer, the counter of the merchant, to bid us hope or beware; yet the former have, without exception, modestly declined to recall their prophecies after the day for their fulfillment had elapsed, and an ungrateful public knows not of them; and the latter, however brilliant, have never dazzled enough to keep their own ignorance from being plainly visible.

Those who really know most feel very sure that as yet there are but two certain means which can be confidently recommended to avoid yellow fever, viz., get out of the place whilst it prevails, or have it once and be thus done with it forever. As to all the other questions propounded, they cannot reply, as well even as science now can, about that wind which, says St. John, “bloweth where it listeth, and thou hearest the sound thereof, but can’st not tell whence it cometh, and whither it goeth,”—nor why.

END OF ARTICLE No. II.

CORRESPONDENCE.

SELMA, ALA., May 24th, 1870.

Editor N. O. Journal of Medicine,—Dear Sir; On the 27th ult., assisted by my friend, Dr. B. H. Riggs, I removed from the head of a negro girl, aged 13, a fibro-cystic tumor which weighed eight pounds and seven and a half ounces (avoirdupois).

The patient was sent me from Perry County, and was accompanied by her aunt, from whom I ascertained the following :

The patient had a tumor, about the size of a small egg, on the top of the head, and without giving inconvenience, it remained stationary for many years.

Last August she had several convulsions when it began to increase, and afterwards it continued to grow until it measured fourteen inches in its long and 12 inches in its short diameter.

The patient was chloroformed sitting upright in a chair, and held firmly by an assistant. A double elliptical incision was made through the scalp, in the direction of the long diameter; the rest of the scalp was detached by the fingers; and the tumor, thus exposed, showed a fibro-cartilaginous adhesion to the bones of the head, extending from the anterior fontanelle to the occipital protuberance. So firm was the adhesion that it could be severed only by the knife.

Though the operation was expeditiously performed, the hæmorrhage was so great as to cause syncope. The application of a solution of persulphite of iron arrested it immediately.

Examination showed extensive caries of the parietal bones; and the occiput, where the pressure was greatest, was so much diseased that the dura mater could be easily felt through it with the finger.

After the edges of the wound were brought together, a simple water dressing and compress were applied.

The patient did well until the sixth day, when erysipelas set in, and on the eighth she died.

Six hours from the time the disease was noticed, she was unable to swallow.

The case is remarkable only on account of the size and location of the tumor.

Respectfully,

JOHN P. FURNISS, M. D.

RESUMÉ OF FRENCH MEDICAL LITERATURE.

BY J. C. WIENDAHL, M. D., OF NEW ORLEANS.

Fracture of the Fibula.—Amongst the most frequent fractures, those of the fibula deserve considerable attention, on account of the often difficult diagnosis which they frequently present, and the evil results which may occur when mistaken. They have been divided according to their mechanism, at times quite difficult to determine. In practice we should recognize but three classes. In the first are placed those of the superior or lesser portion of the fibula, which are direct fractures or complicating fractures of the leg. In the second, we should place all fractures of the malleolus, whatever be their mechanism, which may be located from the point to the base of the malleolus, that are not complicated with fracture of the tibia or only a very slight laceration of the point of the internal malleolus. They are remarkable in that they present but few signs and cause no displacement.

Finally, in a third class, are considered the fractures situated above the base of the malleolus, but seldom at more than from two to two and a third inches from the point. These in many cases, produce distortions, abnormal motions and crepitation. The ones particularly described by Dupuytren, are those complicated with fracture of the internal malleolus, and which, at a greater degree of traumatism, are accompanied with wounds of the internal side of the foot, and finally of luxation of the foot outwards. Their diagnosis is not difficult; it rests upon the distortion, the change of direction of the axis of the foot, its mobility etc.

But on the contrary, with the second class, we are often much embarrassed when the malleolus has not been broken with violence. Quite often, there is neither distortion, crepitation or mobility; and yet cases differ much, as you will perceive in two of our patients. In the first patient, besides a clearly localized pain by pressure at the point of fracture, we could, with the thumb on the point of the malleolus, establish a slight mobility. Moreover, if, steadying the limb with one hand and taking the heel with the other, we sought to bring the foot transversely outward, we perceived that the socket widened and that the foot could undergo a certain lateral mobility. In the second patient, on the contrary, there existed but a single sign, the local pain. We should attach the greatest importance to this sign, and always, when suspecting a fracture of the fibula, we find a clearly defined pain towards the base of the malleolus by pressing with the hands, and sometimes only upon a linear tract, we should suspect as quite probable, a fracture of the fibula, and treat the case in accordance.

Years past this single sign would not have sufficed to estab-

lish a fracture of the malleolus, and some physicians do not yet make it. Still these are facts of great importance, because if the diagnosis be not made *one of fracture*, the patients are allowed to walk too soon, and must later keep up the immobility for several weeks, to be cured. In other instances, the kneading plan is resorted to, which has its merit when the case is simply that of a sprain, but quite the opposite when there be a fracture of the fibula.

In conditions of this nature, it would be more appropriate to put on a provisional apparatus, which might be replaced in a few days by an immovable one, by which the patient might walk without inconvenience. This method is moreover quite easy, since the recent extensive use in hospitals of the silicate of potassa.

To apply the immovable apparatus in question, we first apply upon the limb, to protect the integuments from the caustic action of the coating, a dry band and carded cotton corresponding to the projecting parts; then, above, we roll a bandage soaked in a solution of silicate of potassa, being careful to lap it several times over, in order to form a resisting boot, especially at the level of the tibio-tarsal articulation. Thus made, this bandage becomes more solid than any other; it is lighter and dries sooner than those made of dextrine; it is not as costly, and is everywhere easily procured, the silicate of potassa being much used in industry. We think that this salt will soon be preferred to all other substances for the construction of inamorable bandages.

The solution of silicate of potassa which we employ in hospitals, is obtained by causing to dissolve in hot water, the greatest possible amount of this salt. The syropy consistent solution which results from this operation, contains about one part of silicate to five parts of water.—*Report of the Hospital of la Pitié*.—Service of U. Trélet, by Lucas Champonnière.

Prurigo Pudendi.—Vulvar pruritus, this dermic neuralgia with or without papules, is often such a source of vexation and annoyance to both physician and patient, that we feel somewhat sustained in transcribing the following.

Dr. Elleaume at the end of his recent work on Gynecology enumerates a few of the means, which seemed to him to possess considerable virtue.

He first cites the use of repeated lotions and injections of an aqueous solution of starch.

R Amyli (starch) - - ʒi to ʒiiss.
Aquæ builliant, . . ʒxxxiii.

After each injection, to be careful to powder the internal parts of the labiæ majoræ et minoræ with starch, ʒi; sub-nitrate of bismuth gr. xv to lx.

He recommends highly the following receipt of Dr. Hartmann :

Veratri albi contus (bruised white hellebore)..... $\mathfrak{z}\text{v}$.
 Aquæ..... $\mathfrak{z}\text{xxv}$,
 M., and boil until reduced to $\mathfrak{z}\text{xvj}$.

To be used as warm lotions, or topically, by means of saturated compresses.

In some instances he has found the following unguent to be quite successful :

R Morphiæ acetatis.....gr. vij,
 Adipus, fresh $\mathfrak{z}\text{i}$,
 Chloroform.....gtt. lx,
 Olei Amygdalæ Dulcifer.....gtt. ccc. M.

In other cases to the preceding may be added sodæ carb. $\mathfrak{z}\text{i}$.

Should the above not succeed, the author is of the opinion that we should resort to the lotions recommended by Trousseau : Ist. to—

R Potassæ Sub-Carb..... $\mathfrak{z}\text{iii}$,
 Aquæ distill..... $\mathfrak{z}\text{ivss}$. M.

S. A tablespoonful of this solution to be put into a quart of warm water, and frequent lotions to be made, increasing the amount of the solution of potash daily until it produces a slight heating sensation.

2d. Solution of Bichloride of Mercury.

R Hydrarg. Bichloridi..... $\mathfrak{z}\text{ii}$,
 Alcoholq. s.
 Ft. solution and add—
 Aquæ distill..... $\mathfrak{z}\text{x}$. M.

Commence with a teaspoonful of the solution in half a quart of warm water, and the dose is successively increased to two, three and even four spoonfuls for the equal quantity of water. This mixture is used as a wash whilst warm, two or three times per day, and to be continued for several days after the yielding of the symptoms.

In rebellious cases we may have recourse to the following :

R Nitratis Argent.....gr. ij,
 Aquæ distil..... $\mathfrak{z}\text{i}$.
 M. Ft. solutio. Touch the parts several times per day.

Dr. Diendonné, of Bruxelles, cauterizes with the solid stick of nitrate of silver, practiced slightly once or twice daily upon the clytoris, the labiæ minora and the margin of the anus where the pruritus has usually its seat, and considers it to be most powerful, certain, and probably the only means upon which we should rely.

Finally, Dr. Ellaume says that he has overcome refractory cases by saturated compresses of a solution of perchloride of iron, viz.,

R Ferri perchloridi..... $\mathfrak{z}\text{iss}$,
 Aquæ $\mathfrak{z}\text{xxxiii}$. M.

Article 7802 *Journal de Médecine et de Chirurgie.*

Prurigo of the Anus, its Etiology and Treatment.—Having given a few notes on *prurigo pudendi*, we will add a few more on that of *prurigo podicis*, taken from the conferences of Dr. Bazin, at the hospital of St. Louis.

Viewed in a general manner, prurigo has, at times been considered as a phlogosis of the cutaneous papillæ, and at others as a neurosis; but it is of less importance to know whether it be a phlogosis or a neurosis, than to know the etiologic influence upon which this morbid state depends.

Now then this cause or influence is at times external, and at others internal. As to prurigo podicis, there can scarcely be any external cause but parasites, such as the *pediculi pubis*, and the *thread or maw worm*. But prurigo depends generally upon an internal cause and this may be due to scrofula, arthritis or herpetis. It is then in this two fold view, that Bazin studies the partial prurigo seated at the anus.

We are seldom consulted for an anal prurigo of a scrofulous nature, the scrofulous seldom presenting any but the prurigo mitis form, which is characterized by voluminous papules, with almost total absence of itchings. It is otherwise with the arthritic and herpetic prurigo. The arthritic prurigo is frequently situated at the margin of the anus from whence it extends to the nates and genital organs. Cold weather augments it, and those subjected to its influence complain more of suffering from tingling and throbbing than of perfect itching sensations, although the latter is not infrequent when an arthritis such as eczema, lichen, or psoriasis, for instance, complicates prurigo.

The diagnosis of this peculiar form is made by the local inspection of the parts, which demonstrate papules covered with sanguineous scabs, due to the pricking and itching, and especially by the relation which these phenomena bear to the anterior or concomitant affections, which disclose the arthritic origin. This form of prurigo is usually of long duration and subject to relapses, but under this double bearing, its prognosis is less grave than that of the prurigo herpetis.

The origin of arthritic prurigo being known, it is treated by the general means applied to that class of arthritic affection, *i. e.* by the alkalis, the administration of light purgatives by diuretics, and suitable regimen.

As to the local treatment, Bazin, relies chiefly on unguents, liniments, glycerine mixtures and lotions. The unguents are less successful than other preparations. In the arthritic prurigo of the anus, he recommends particularly the following formula:

R	Aquæ calcis	ʒj
	Glycerine.....	ʒj
	Ol-amygdalæ dulc.....	ʒij

In similar cases he obtained beneficial results with the following:

R	Aquæ destill.....	ʒvjij
	Argent nit.....	gr. 7 to 10,

We now come to the herpetic form, *i. e.*,—to the *prurigo formicans* or *prurigo ferox* of authors. These adjectives express sufficiently the nature of this form of the disease. In the *prurigo podicis*, as in the *prurigo pudendi muliebris* and the *prurigo scroti* of herpetic origin, we do not always meet with local alterations relative to the violence of the pruritus, which is often a source of great vexation to the patient. In the first, the affection is limited to the margin of the anus, presents white fissures which do not blend with the brown coloration of the parts, exhibits also variable thickening of the skin, and at times gives forth a serous oozing which seems to allay the itching; but oftener the papules are so little raised as to escape even the best sight.

We have said that herpetic prurigo of the anus was that order or species wherein the prognosis was the least favorable this being in great part due to its persistent nature, as well as to its extreme proneness to relapses. Let us add that it is at times so violent, that it becomes a cause of permanent insomnia, and in certain cases even provokes disorders of the intellect. We know, finally, that *partial* prurigo is more difficult to relieve than a generalized herpetic one. In the same manner that anal prurigo complicated with arthritis demands an anti-arthritic internal treatment bearing an alkaline base, likewise does a complication of anal prurigo with herpetis demands that we should first treat the herpetic affection. Now, according to Bazin, the medicine for herpetis is arsenic taken in the form of solution, pills, or mineral waters containing certain proportions of this metal.

His favorite solution for local or general herpetic manifestations is the following:

R Arseniat ammoniæ.....gr. $\frac{5}{7}$
Aquæ destill..... $\frac{7}{2}$ x.

M. S. A tablespoonful morning and night, and gradually increased to four and five spoonful daily.

In debilitated individuals, he orders the following pills, of which he progressively increases the number to 2, 10, 15, 20, 25 and 30, per day:

R Ferri arseniat.....gr. $1\frac{3}{10}$
Ext dulc. amaræ.....gr. xv.
M. ft. S. A. Pilulæ 20.

He orders at the same time an infusion of saponaria, and in acute herpetis, a glass of sedlitz or Pullna water two days per week.

Amongst the natural arsenial waters which are appropriate to such cases, are those of Bourbole, Plombières and Mont Dore.

If this internal medication has been dwelt upon to such an extent, it is because it is the only true, rational treatment susceptible of lasting effect, the local treatment being only a palliative one. Yet, at times we must have recourse to the latter,

so plaguing and annoying and even unsupportable is the pruritus. Bazin endeavors to assuage the itching by means of lotions of cold water, acidulated and tar waters, solutions of acetate of lead, alum, and corrosive sublimate, or with glycerine, or decoctions of hyosciamus and poppy heads, etc., etc.

At other times he resorts to unguents of oxide of zinc, of calomel, etc. In anal prurigo he has often derived benefit from inunctions of oil of cade (*oleum juniperus oxycedrus*) and from cauterizations of nitrate of silver practiced at different times upon the effected parts. Finally, in *prurigo ferox podicis*, he speaks favorably of an unguent of morphine, grs. $1\frac{3}{10}$, and adeps. $\frac{3}{4}$ —not as we might imagine on account of its effect in allaying the itching, but in substituting for it a real pain, which spite of its sharpness is more tolerable than the pruritus.—Article 7920, *Journal de Medecine et de Chirurgie*.

Hydrate of Chloral.—M. Bouchut, in a communication to the Academy of Sciences, of Paris, attributes the contradictory results of experimenters with the hydrate of chloral to the pure or impure character of the agent employed. He considers it ineffective and probably capable of great mischief when not used in a crystallized and pure state, producing vapors of chloroform by the addition of potash, and leaving the liquid uncolored. He agrees with Lebreich that it is by the production of chloroform in the blood, and its alkaline reaction, that the ingested chloral produces sleep and anæsthesia. He holds it to be not only an hypnotic, but also an anæsthesia agent. "Its action," says he, "is purely that of chloroform, only it is slower in being developed, and of much longer duration. With some patients it produces a muscular and moral excitement resembling much that of alcoholic intoxication; but this state is in no wise unpleasant. With nearly every one, it produces a peculiar sleep by its very profound anæsthesia which is seldom accompanied with hyperanæsthesia. The anæsthetic state is in relation to the dose given, and the dose from 30 to 75 grains, according to the age, it is complete and tolerates cauterization with Venetian paste and the extraction of teeth." It should not be given beyond 75 to 90 grains at one dose to the adult; in children we should begin with 15 to 30 grains. It should be recently made, and may be administered by mouth or rectum with equally good effect. He considers it dangerous hypodermically. Amongst the affections in which he considers it of great value, is that of intense chorea, and he cites a conclusive example, saying that if the practitioner is desirous of producing immediate relief, in cases compromising life by great nervous disturbances, he could not avail himself of a more prompt and effective agent. He holds it as a sedative, *par excellence*, for gout, for violent nephritic colic and for toothache, and he supposes that it will give much satisfaction in allaying the pain of natural labor. "I do not doubt," says he, "that the hydrated chloral, which so completely commands the muscles of

the life of relation (*vie de relation*), which produces temporary amyosthenia, may be useful in puerperal eclampsia. Experience should test it, not to cure, but at least to suppress the paroxysms and permit the termination of labor, especially if convulsions should intervene."

Article 7917 of the same journal for January, 1870, states that Dr. Mandl has obtained excellent results from the chloral aspiration in the form of cigarettes, to allay the distressing cough of phthysical patients, and in general and fatiguing irritations of the larynx and bronchia.

Mr. Namias, physician to the hospital of Denise, in a note addressed to the Academy of Sciences of Paris, contrary to the opinion of Bouchut, states, that he has never produced sears with the subcutaneous injections of from fifteen to thirty grains of chloral dissolved in distilled water. That its effect was always prompt and excellent. The injections were practiced particularly in cases of sub-orbital neuralgias, in cases of muscular rheumatism and in hyperæsthesia of the chest in phthysical patients. He gave it internally to the amount of 120 to 150 grains, in six or eight doses—at two hours interval and during several consecutive days. Its effect was always excellent: no arterial tension nor frequency of pulse was observed.

Now, is the hydrate of chloral a good anæsthetic? According to Bouchut, it is; but judging from the observation of Mr. Noir in the *Gazette des Hôpitaux* of the 23d of December, we should be very cautious. Administered to a patient about to be amputated, it produced an anæsthetic influence as prolonged and effective as that which we would have obtained with either ether or chloroform. But, remarks Mr. Noir, "the delirium, the coma, the prostration were so frightful that I think it would be imprudent to use it frequently, unless these phenomena depended upon a peculiar idiosyncrasy of our patient."—Article 7900, *Journal de Médecine et de Chirurgie*.

Use of Caoutchouc Cloth in the Treatment of Skin Diseases, by Heba, of Vienna.—Non-vulcanized caoutchouc cloth produces a similar action to that of prolonged bathing of the skin. Vulcanized cloth (1) contains sulphur, and exercises an action upon the skin similar to that of a continuous sulphur bath.

In many eczemas, the unguents of tar and zinc, or corrosive sublimate produce as speedy a cure. In others, the caoutchouc cloth is preferable to the unguents; such as eczemas of the hands, fingers, articular spaces, and of the scrotum and feet, where unguents are not of convenient application. The preparations of caoutchouc appease the pain excited by the rhagades, by maintaining the parts in a constantly humid state, by means of gloves, bands and suspensories made of that material. If caoutchouc be not a panacea in dermatology, it is at least a happy innovation, particularly as it does not prevent other curative means. In

many instances, the cure of eczema will be more easily accomplished by the simultaneous use of the cloth with black soap, baths, douches, preparations of tar, etc.

Caoutchouc cloth has produced favorable results in cases of pityriasis, xerosis and palmar psoriasis, tylosis of the sole of the foot, affections in which there exists much thickening of the epidermis. By this means, Heba has always caused the cessation of the sometimes quite violent pain, occasioned by the rhagades; sometimes he has obtained a complete cure by the prolonged use of the treatment. The same means has succeeded in some cases of burns of the second degree of the face and hand. The professor highly recommends the caoutchouc cloth to be applied to the hands and feet of patients affected with variola; which means by softening the epidermis of the soles of the feet and of the palms of the hands, alleviates the always painful sufferings occasioned at a certain period of the disease. The extremities are enveloped in a kind of sack which is emptied each day of the matters secreted by the skin.

It is in cases of general pruritus that he has obtained the most happy results; at times the parts affected with eczema were irritated by most violent itchings; at others the itching occurred even in the healthy portions of the skin. These last were cases of the prurigo senilis. Of four patients, aged from sixty-five to seventy-five years, one was treated at the hospital, the other three in private practice conjointly with their physicians. Each wore, day and night, a complete habit of vulcanized caoutchouc cloth, applied directly upon the skin. This habit was changed night and morning, cleansed, wiped and replaced immediately. In all, a diminution of itching and return of sleep was experienced from the first day. After a few weeks, this habit was only worn at night; then for several hours only of the day, until the cure was completed. The accompanying eczema was combatted by the tar ointment, of which the cloth disguised the odor.

(1.) The tissue recommended by Hardy, is common cotton cloth soaked in a solution of caoutchouc, and vulcanized afterwards. This operation consist in pasting the cloth with a mixture of caoutchouc and sulphur heated at a high temperature. This cloth can be cut, sewn and folded as needed. Hardy applies it simply on the diseased parts. Heba has it made into various articles, such as caps, gloves, and coats etc.—*Article 7906, Journal de Médecine et de Chirurgie.*

Efficacy of large draughts of pure water in poisoning.—The following note taken from the works of Sydenham is full of instruction:

“I was called to a servant who had taken a large dose of corrosive sublimate. About an hour had elapsed, when I arrived. His mouth and lips were already much swollen; he complained

of violent pain and burning heat in the stomach, and was extremely ill. I ordered him at once to drink at different intervals, but as speedily as possible, twelve pints of tepid water, and that as often as he should vomit, that he should begin to drink more. I ordered also, that as soon as it would be perceived by the pains of the bowels, that the poison was gaining the bowels, that he should be given a number of injections of simply tepid water. The patient did as ordered, and drank even a greater number of pints of water than ordered. The first vomits were extremely acrid, on account of the quantity of corrosive sublimate which they contained; those which he threw up successively, became less acrid with each successive ejection, until they became completely free. The colics which came on were tempered by tepid water clysters. This simple means was so successful that in a few hours the patient was out of danger. There remained only swelling of the lips and excoriations of the mouth, caused by the acridity of the poison contained in the water which he threw up; but by the use of milk, which I had him to take as sole nourishment during four days, he soon alleviated these symptoms. Ignorants give oil uselessly in such cases. As for me, I would prefer water to oil, and to all other liquids, for the reason, that being easily taken in great amount, it seems better calculated to take up the particles of corrosive sublimate, than all the other thicker liquids; for they are already impregnated with particles of other bodies." This fact, according to Dr. George, author of a work entitled "*Médecine des Campagnes à l'aide des substances usuelles*," (medicine of the country districts with additional means beyond the ones in general use), proves that there is no substance, however caustic, that being diluted in a sufficient quantity of water may not become inoffensive.

Water then attenuates the effect of poison and acts as a neutralizer. It fills besides the second indication of the treatment of poisoning, that which consists in promoting the elimination of the poison, whatever it may be. Thus, this elimination is accomplished by four principal channels; the superior and inferior digestive orifices, the skin and the kidneys. But tepid water is emetic, cold water is diuretic. Why not then oftener resort than customary to this method, so simple and so happily put in practice by the learned Sydenham?

Water, remarks Dr. George, has the first virtue of an antidote applicable to all poisonous agents and is available at all hours. We, time and again, read in the papers that a workman, or other individual has swallowed, by mishap, a glass of aqua-fortis, or a solution of copper, or solution of sulphuric acid. While a physician is hunted up, this poor fellow has died. In all these cases, absolute common water, cold or warm, taken in abundance, would suffice to neutralize the poison and save the victim.

The above is a means of saving life which could not be made too public.

Academy of Sciences.—M. Deprès, Surgeon to Lourcine, read before the learned Society, a paper upon several interesting points of the anatomy and physiology of the uterine neck outside of gestation.

He said, "The uterine neck contains glands in clusters or ramified tubules situated in part in the muscular tissue of the uterus, similar to the prostatic glandulæ between the fibres and the muscular portion of the urethra.

"These glands secrete a clear, viscous, albuminous liquid, analogous to the prostatic liquid, which escapes from the neck in a somewhat intermittent manner, and produces the female ejaculation.

"This liquid that he calls uterine, escapes slowly from the neck and remains upon the mouth of the uterus, and in the cavity of the uterine cervix. It has been improperly considered heretofore as a variety of catarrhal fluid. The ejaculation of the female is destined to furnish vehiculum to the zoosperm to enable it to pass safely into the neck of the uterus.

"The glands of the neck become obliterated during gestation and produce cysts or glandulæ Nabothi; but delivery destroys the evil that pregnancy has produced. The cysts are ruptured during labor by the act of retraction of the uterus.

"The neck of the uterus is erectile, its erectile nature is excited simultaneously with that of the other erectile organs of the woman, and opens to allow the escape of the uterine liquid.

Therapeutic use of Compressed Air.—Resumé of M. Gent to the same Society, with regard to the therapeutic advantage of compressed air, in emphysema and asthma and other chronic affections of the respiratory organs, as well as those of chlorosis and anæmia.

"He remarks that air densified by compression, increases vastly the pulmonary capacity, oftentimes to twice, and sometimes even more beyond its usual capacity; it renders respiration and circulation more equable and slow, to a notable degree. The respiratory act, is more prolonged and profound, the hæmotosis is more complete; and thus compressed air becomes a reconstituting agent of great value." M. Gent reported two favorable results from its use, and a committee has been appointed to report upon the subject.—*Société de Chirurgie.*

Dr. Forget communicated to the Society, the report of a case of traumatic tetanus, which terminated happily on the 5th day, by the combined use of kneading and douches.—*Article 7914, Journal de Médecine et de Chirurgie.*

Bibliography—*A Clinical and Therapeutical Treatise on Diabetes*, by MAX DURAND FARDEL.—The work of Fardel is based upon an experience of twenty years, at Vichy, and the observation of 334

cases collected during twenty years, amongst a greater number of other facts of the same order which he observed. The work is divided into three parts; the first comprising its pathology, i. e., its symptomatology, its various incidents and pathological anatomy; the second appropriated to its pathogeny and etiology; the third part to therapeutics and hygiene.

The only division that he admits of (*relatively to the question, should we recognize different kinds of diabetes?*) is that which is based upon the march of the disease; there are diabetes of short, and diabetes of long duration. The first represent but a disease of adventitious nature. The second a truly diathetic disease; these should arrest the serious attention of the physician.

In the chapter relating to accidental diabetes, he cites particularly those furnished by Marshal de Cahr, connecting gangrenous accidents to the diabetic affection, such as furuncles, anthrax, etc.

There is another link which the author points out, it is that which exists often between diabetes, the uric diathesis and obesity.

With regard to the progeny of the diabetic diathesis, he maintains that it is less serious than it is generally thought to be, for it is one of the diseases in which therapeutic and hygienic intervention exercise the most immediate and decisive influence. He further adds that there is but one indication to be drawn, it is to stimulate assimilation, i. e., the utilization of the elements which serve as material to organic metamorphosis, and we should remember that this rule answers as well the indications pertaining in the treatment of the uric and fatty diathesis, as those that pertain to diabetes. For, reason and observation would lead us to suppose, if not to demonstrate, that in these three morbid manifestations the question is more one of imperfect assimilation through want of assimilative activity than through an excess of the materials to assimilate.

Also, it is more to hygiene, rather to what we should call therapeutical hygiene, than to the materia medica that we should turn our mind. There is no drug for diabetes, no more than there is for the uric diathesis or for obesity, or rather there is but one, soda and its compounds. Soda, according to the author, is really a medicament of assimilation, in whatever manner we may interpret its action. Fardel thinks, that we may consider it as a real agent of oxydation, and it is to this, doubtless, that is in great part due, the action of the mineral waters, representing by themselves, in a medicinal view, a great soda medication. We should likewise explain the success of the alkaline medication of Mialhe and Bouchardat, who, in prescribing it, have obeyed more a therapeutical intuition than the inductions of a theory, which the experiments of Cl. Bernard and Lehmann, and of Poggiale have completely overset in demonstrating that the alkalies are devoid of any action whatever upon the sugar contained in the blood. But it is hygiene above all which furnishes the most precious results against diabetes and the diathetic

states, bearing some relation to it, such as the uric diathesis and obesity. Upon this view the theory of Bouchardat is indisputable, and his fine work upon the utility of exercise is of great service, not on account only of the precepts which it contains, but also for the sound principles that he establishes.

We have said above that soda and the alkalies in general were about the only internal remedies of any advantage in this disease. We are aware of the ammoniacal preparations happily suggested in such cases by Bouchardat. We may, according to Galtier-Boissière, substitute with advantage the salts of potash to those of soda. But we here wish to borrow from the work of Durand Fardel, a few remarks from pages 455 and 456 upon the external agents which reasoning and observation have established to produce a happy result in glycosuria.

"Of all the systems of the economy, says the author, the skin is probably that upon whose mode of action depends most directly the phenomena of assimilation and organic metamorphosis. We can say: "Tell me how you perspire, and I will tell you how you digest;" if we mean more the quality than the quantity of perspiration, and if we mean by digestion, with the old physiologists, assimilation itself.

"The integrity of the cutaneous functions, and even their super-abundant function, is of capital importance with the diabetic. There is, firstly, here a question of hygiene." With regard to this, Durand Fardel recalls to mind what he said above with regard to exercise. "Bouchardat has insisted with justice upon the advantage of flannel worn upon the skin in the form of jackets and drawers. The bath, viewed in its most simple action, is equally necessary to maintain the most minute physiological cleanliness." The author is in the habit of ordering dry frictions, with hair gloves to the diabetic.

Outside of the baths that thermal medications admit, medicinal baths have a very salutary action to which we generally do not sufficiently resort. Fardel prescribes either the sulphurous or alkaline baths combined or isolated, and we give here the formulæ:

No. 1.	R	Sodæ sub-carb.....	℥jv.
		Gelatine.....	℥xvj.
No. 2.	R	Salts of Vichy, with or without gelatine.....	℥vjj.
No. 3.	R	Potassæ sulphuret.....	℥ij to ℥jjj&℥.
No. 4.	R	Sodæ bi-carb, with or without gelatine.....	℥jj&℥ to ℥jv.

Durand Fardel considers that one or two of these baths per week should be part of the regular habit of those affected with diabetes.

He does not think that vapor or hot air baths are advantageous, unless the disease is accompanied with a gouty habit, and especially a rheumatic one. Experience, adds the author, has not sufficiently pronounced upon the usefulness of hydrotherapy in the diabetic. Still, it is a rational practice, provided that the reaction is good; and we are aware that cold affusion or the douche is a necessary complement to slightly violent gymnastic exercises.

He has often observed the good effects of river baths of short duration, more prolonged with natation, but never too prolonged, is an excellent hydrotherapeutic practice.—Articles 7915 et 7930. *Journal de Médecine et de Chirurgie*.

The Production of Œdema.—About two centuries ago, Lower made the first experiments for the production of dropsies by the ligature of the veins, and substituted the theory of the production of œdema by the stasis of the blood, in opposition to that of Aselli, who considered dropsies as an effusion of lymph caused by the rupture of the lymphatic vessels. Since then, hundreds of clinical observers have coincided with Lower. So then, it is with astonishment that by the organ of Claude Bernard, we hear Dr. Ranvier maintaining before the Academy of Sciences, that the obliteration of veins in dogs and rabbits does not result in dropsy, and that it is more than probable that a different result is not produced in man.

Renewing the experiments of Lower, Dr. Ranvier tied the two jugular veins of a dog and rabbit, and in these two animals there was produced neither flowing of tears nor salivation nor œdema. In other experiments, he tied the femoral and inferior cava vein, and no œdema was produced. It occurred to him that he might be able to produce dropsy by paralyzing the vaso motor nerves. He cut the sciatic nerve on one side only in a dog, which had had the vena cava tied, and from that instant considerable amount of œdema resulted on that side, whilst the other abdominal member remained free. This experiment was repeated three times, and each trial resulted in producing the same phenomenon. He concluded, that in the dog at least, in cases where there is venous obliteration, œdema is only developed consecutively to the section of the vaso-motor nerves.

This is assuredly a subject of research which one should keep in mind during the study of clinical dropsies. Yet we do not think that they would suffice to authorize us to doubt the law of cause and effect which, as remarked by Bouillaud, exists between the obliteration of the veins and the class of dropsies designated as that of *passive*. That the intervention of a certain lesion of the vaso-motor nerves may be necessary for the production of another order of dropsies, may be possible; but for that to which the œdemas pertain, the cause is truly a material obstacle (obliteration or compression) to the course of the blood, and should be remembered at the bed side.

Thermo-Galvanic Cauterization of a Laryngeal Tumor.—Reported to the Academy of Science for Dr. Mandl, by M. Larrey. Being assisted by Mattieu, Jr., who attended to the galvanic pile, and holding the laryngoscope in the glottic orifice, the circuit being closed, the operator pushed the instrument from behind forwards, cutting and cauterizing the tumor during the space of a second. A slight amount of smoke escaped from the

mouth, emitting the odor the of burnt flesh; but no pain was experienced by the patient, no injury whatever was inflicted to the vocal chords. The result was quite satisfactory. The respiration was immediately improved to a considerable degree, and at the end of six weeks, the respiration and voice were almost normal; but as the tumor was not totally atrophied, and there being a few traces beneath the right vocal chord, Dr. Mandl made a second galvano-caustic cauterization, and hopes that he has prevented all chance of relapse.—*Article 7917, Journal de Medicine et de Chirurgie.*

CHRONICLE OF MEDICAL SCIENCE.

QUARTERLY RECORD OF SURGERY.

Collated by S. LOGAN, M. D., Professor of Surgery, N. O. School of Medicine.

Severe Case of Tetanus Cured by Exsection of a Nerve: By
GEORGE E. FOSTER, M. D., Springfield, Mass.

M. L., aged twenty-four; married; by birth an American, and by occupation a seamstress; bought a pair of shoes July 20th, 1869, and put them on; while walking, she felt a sharp substance pricking the skin of the anterior and inferior aspect of the right heel. She continued to walk, but with pain, until she stepped from the curbstone to cross the street, when accidentally her whole weight was thrown on to the heel and something was driven into it which caused exquisite pain. She called a carriage which was passing, and rode to her residence. Upon removing the shoe, a shoe-nail was found driven into the heel, the end protruding. A shoemaker who lived near was called; he removed it with pinchers, and upon examination found it to be whole and one inch and a quarter in length. The pain subsided and the wound healed, leaving no trace of the injury. No more was thought of it until Aug. 3d, 12 o'clock, when she awoke in the night with chills, stiffness of the limbs and slight twitching of the muscles of the arms. Chafing and hot drinks were resorted to by the family, but without changing the symptoms. At 3 A. M., the family physician was called; at that time, she had spasms of all the limbs, and well-marked trismus, mind clear, pulse full. He tried all the remedies that could be thought of, but she became worse very fast, and at 8 A. M. another physician was called,

who pronounced the case hopeless. The doctor in charge was not willing to give up: they sent for me, but being out of town I did not see her until 12 M. She was then very weak, spasms constant, trismus well-marked, pulse 97 and very feeble, mind perfectly clear. All the known remedies were again tried, but with no better result. She could give no cause for the attack. The physician in attendance, while conversing, accidentally spoke of the accident three weeks before, and the family exhibited the nail, which was whole, but upon examination a slight spot of rust was found near the point. A subcutaneous injection of a solution of the sulphate of atropia was made over the posterior tibial nerve, but without relief. At 4.30, P. M., she being under the influence of ether, I cut down upon and with care removed about two lines of the internal plantar nerve; hot cataplasms of flax-seed, yeast and laudanum, were ordered, to be applied once every hour and a half. Pulse one hour after the operation was 45 and fluttering, pupil of right eye fully dilated and of the left contracted, mind wandering. Passed a bad night (no spasms or trismus after the operation); wine whey was given both by the mouth and rectum every hour during the night.

Aug. 4th, 8 A. M.—Mind again clear, pulse 94 but weak, has gained strength, wound suppurating.

5th.—Pulse 86 and good. Beef-tea and wine whey still continued, with toast; wound suppurating freely.

6th.—Every symptom good—still quite weak.

10th.—Ordered the wound to be kept open five days.

Jan. 12th, 1870.—She is as well as ever; no spasm of any kind since the operation.—*Boston Medical and Surgical Journal*.

Abstract of a Clinical Lecture: By MR. ERICHSEN.

THE following is an abstract of Mr. Erichsen's lecture delivered at University College Hospital on Monday last.

The first subject of the lecture was a case of strumous disease of the elbow-joint, in which Mr. Erichsen had performed excision about a month previously. He remarked that disease of the elbow-joint was rare except in young persons, and then it occurred in strumous subjects. He excluded those cases in which there was a general joint affection, as, for instance, examples of rheumatism. The present case was that of a female aged 18, who, until July, was in good health. The joint, without any apparent exciting cause, then became painful, and, by October, was fixed and useless. Mr. Erichsen had performed excision, removing the head of the radius, although not diseased. The patient had since done well. The case was typical in so far as it had commenced without injury. The disease consisted of inflammatory action, with destruction and deposit of matters around the joint.

With regard to treatment, if these cases are treated by rest and

constitutional means, a large number of them will get better, but with more or less complete ankylosis; but such a condition as this, however, is often not desirable. If extended, the limb is useless; if flexed, then it loses four of the most important movements of the upper extremity—the power of flexion, extension, pronation and supination. If violent flexion and extension be attempted, in many of these cases, failure will be met with. The elbow-joint is complicated and different from the knee-joint, where such means may frequently be adopted with benefit. And even if the elbow-joint be benefited for the time, the disease has a tendency to relapse. In attempting to arrest the disease and produce ankylosis, the limb should be placed in a position of half extension and half pronation, the position most useful if ankylosis take place; but if the disease progress, and the swelling continue to increase during treatment, excision should be performed, and the sooner the better. If this be done, there is a very considerable prospect of obtaining a good and useful limb. Mr. Erichsen did not advocate premature excision; but, if other means of relief fail, then excision should be at once performed. Amputation of the upper extremity, except in rare cases has been abandoned. Nothing in surgery is to be more reprobated than sacrificing a healthy hand and forearm to a diseased elbow-joint. After excision, the patient retains all the movements necessary for the ordinary uses of life. As to the method of operating, the the longitudinal incision is as good as any. It is now found that all joints can be excised by a single incision, and the elbow-joint the best of all. He had not employed any other for the last eight or ten years. The incision should be of sufficient length, and a little to the inner side of the joint. The upper end of the radius was, in the present case, sound, but he removed it because it had been found that bad effects follow if it be allowed to remain. There is an unequal line, and there is a liability to have undue stiffness or partial ankylosis. After excision, the arm should be kept extended for the first week, and then half flexed and half pronated. Mr. Erichsen referred to the case of a woman aged nineteen, whose elbow-joint he had excised when she was thirteen years old, and who had continued to come occasionally to the hospital. She had retained all the movements of the arm. He mentioned a second case in which ankylosis had taken place. This was one of the very few cases he had seen in which it had occurred; but in this case there had been much disease, and the patient did not attend at the hospital sufficiently often to be properly observed. Bony ossification had taken place. He would, if he received the permission of the friends, sever this bond of union and free the joint. The reverse, too great movement, was rare after excision. He had seen one case in which the epiphysis of the humerus had been lost in a primary excision for compound fracture; and it was in cases where the epiphysis was involved, that too free movement generally occurred.—*Brit. Med. Journal*, March 19, 1870.

Removal of the Tongue by the Submental Operation.

THE patient in this case was a woman of advanced age, who had been admitted into the hospital under the care of Mr. Erichsen. The back part of the tongue was occupied by an ulcerated epithelial growth, the right side of the organ being chiefly involved. On Wednesday, February 16th, the following operation was performed: The patient having been put thoroughly under the influence of chloroform, Regnoli's T-shaped incision was made under the chin, the first cut being made from the lower edge of the jaw, along the mesial line, to the hyoid bone, and the incisions on either side along the inferior margin of the lower maxillary bone. Two flaps, formed of skin and subjacent muscular tissue, having been dissected out, and turned outwards and downwards, and the insertions of the hyoid and lingual muscles to the lower jaw divided, the tongue was dragged downwards through the large submental opening thus formed. The chain of an *écraseur* was then applied around the base of the organ, and slowly tightened by intermittent movements of the screw. After the removal of the tongue there was considerable arterial hæmorrhage, and a ligature had to be applied to the left lingual artery. Mr. Erichsen, after the operation, stated that, with regard to the hæmorrhage, the *écraseur* was a very uncertain instrument, being frequently followed by very little bleeding, but occasionally by a great loss.

The patient had an attack of erysipelas after the operation, but afterwards did remarkably well. On March 16th, one month after the operation, she was in a state of convalescence.—*Lancet*.

Sulphurous Acid in Syphilitic Ulceration.

DR. MURCHISON has recently tested this remedy at the Middlesex Hospital, with a favorable result, in the case of an old woman, with tertiary syphilitic ulceration of the pharynx, involving deeply the posterior pillars of the fauces. Iodide of potassium with chlorate of potash was employed internally and the sulphurous acid (one part to four of water) was used locally in the form of spray. The ulceration was speedily checked and continued to improve so long as the application was kept up. When the treatment was omitted for a short time the ulceration recommenced.—*Richmond and Louisville Medical Journal*.

Sudden Dilatation for the Cure of Phymosis.

DR. CRUISE recommends this method as sufficient for the cure of an affection which has heretofore required circumcision, partial or complete. By sudden dilatation the contracted mucous

membrane of the prepuce is ruptured. He thus describes the procedure and the instrument employed: "The handles resemble those of a pair of scissors, whilst the blades are bent at right angles and terminated in rounded points. These separate as the handles are approximated, the degree of separation being regulated by an arc and screw-nut between the handles. The degree of separation required may be estimated by casting a loop of thread round the glans penis, and so graduating the nut on the arc that on compression of the handles, the blades separate sufficiently to tighten it. The preputial orifice is now sought out, exactly where the skin and mucous membrane unite. The closed blades are carefully introduced, care being taken to avoid the urethra, and the handles firmly and suddenly closed. The pain is sharp but temporary; no bleeding follows. The foreskin is then retracted over the glans penis and allowed to remain for forty-eight hours and a moistened pledget of lint applied to the parts."

Death while under Chloroform.

A paragraph with this heading has appeared in most newspapers in Scotland, as occurring at Alloa. The facts of the case are these: A woman, aged twenty-two, was admitted into the hospital, under the care of Dr. Brotherston, suffering from ovarian tumor. An operation being required, Sir James Simpson kindly agreed to be present, and administered chloroform. The operation was begun, but as the patient moved, was stopped until she was more completely under the influence of the anæsthetic. The operation was again resumed, when Sir James Simpson noticed that the patient seemed suddenly to stop breathing, and that her pupils became dilated. Artificial respiration was employed, and they were soon enabled to proceed with the operation, after again giving a little more chloroform. Again the pupils dilated and respiration failed, and, notwithstanding every effort, the patient did not rally. This we believe to be the first case of death under chloroform which has occurred in Sir James Simpson's practice. —*Medical Press and Circular.*

Treatment of Gonorrhœa.

A VERY eminent surgeon, writing in the *British Medical Journal*, says the directions now given as to injections by many is, "let it go as far as you can, and remain as long as you will." Orchitis and stricture are the results, not of injections but neglected claps. Great reliance is to be placed in injections of chloride of zinc—two grains to the ounce, aided by purges. Copaiba is of no great

value; and injections will generally cure in a week or fourteen days. Injections in clap, like lotions in ophthalmia, should be stronger, just in proportion as the inflammation runs high, and we need not wait until the inflammatory stage is subdued, but use them at once and very frequently. We agree with every word of this.—*Medical Press and Circular*.

Stricture of the Rectum.

MR. NUNN has long been convinced that non-malignant strictures of the rectum are mostly syphilitic. He is inclined to attribute this to catarrh of the rectum, just as stricture of the urethra follows gleet. Almost all patients with non-malignant rectal stricture are females. Mr. Paget, in describing the chief features of syphilitic disease of the rectum, notices the cutaneous growths about the anus, almost always seen with it. These are growths from the skin, smooth, and flattened from side to side by mutual apposition. A thickened and indurated condition of the lower part of the rectum is met with, with ulceration of its mucous membrane, and a narrow stricture sometimes exists about $1\frac{1}{2}$ " from the anus. In cancer the anus is free from disease, in syphilis never; in syphilis the ulceration comes quite down to the anus. Iodide of potassium is of little good; mercury, cautiously administered, is often beneficial. The stricture should be incised and bougies used diligently, but very cautiously.—*Medical Press and Circular*.

Torsion of Arteries.

AT a recent meeting of the Clinical Society of London, Mr. Cooper Forster read a paper on Torsion, in which, and in the discussion which ensued, much interesting evidence was adduced in favor of this mode of occluding arteries. The speaker, after stating that he had lost two cases of bleeding when the pins were removed after acupressure, cited several amputations; one excision of the elbow; three of the knee; four of the hip; besides some forty other operations, in which torsion was alone used without untoward results; adding that in no case at any time under his notice, had secondary hæmorrhage occurred. He believed that "the greater security of torsion arose from the reduplication of the middle and internal coats, thus affording a mechanical impediment to hæmorrhage, which impediment increased day by day," whilst in acupressure the only safeguard was the clot which formed above the pin. He had not used a ligature to arrest bleeding from an artery since the beginning of 1867. Mr. Forster's method is to seize from an eighth to a quarter of an inch of

the artery, and in the case of a large vessel, to twist it four or five times. Torsion is more difficult in small vessels than in large ones, on account of the likelihood of grasping the surrounding tissues with the forceps.

Mr. Bryant stated that he had not used the ligature for two years. Mr. Poland had successfully employed torsion with six femoral, two brachial, and numerous smaller arteries. Mr. Durham had applied it to four femoral, two brachial, and many smaller vessels.—*Medical Gazette*.

Superlaryngeal Encysted Tumors; or Encysted Bursal Tumors in Front of the Larynx. Reported from Dr. F. H. HAMILTON'S Lecture on Tumor's, delivered at Bellevue Hospital Medical College, September, 1869.

THERE is a small encysted tumor which forms pretty frequently upon the front of the larynx, and which, so far as I know, has not been hitherto described. Of the nine or ten cases which have come under my notice, the position has ranged from a point just above the thyroid cartilage to a point in front of the cricoid cartilage; but in most cases they have been situated directly in front of the crico-thyroid space. Seven of the whole number have occurred in females; several of them commenced in early childhood, or during infancy—possibly some were congenital. They have presented themselves uniformly exactly, or almost exactly, in the median line. They have been globular in form, smooth, elastic, painless, and generally without discoloration. They have seldom caused any inconvenience, unless it has been a slight sensation of constriction. I have never seen them attain a larger size than a small orange; and in most cases they have not been larger than a pullet's egg.

Occasionally they have disappeared somewhat suddenly, but only to reappear after a short period; and in one instance the sac was evidently emptied into the larynx, the contents being coughed up. In one case the tumor disappeared, and had not returned at the end of two years.

The contents of the tumors have, with one exception, been found to be a thin, yellowish serum. In the exceptional case the serum was mixed with blood, the walls being hæmorrhagic. The walls of the cysts have been uniformly thin, and firmly attached to the portions of the larynx over which they were situated.

The surgical treatment which I have adopted has been either incision or excision. Excision is difficult, owing to the thinness of the walls, and to the close attachment of the base to the larynx. Excision has been followed once by sufficient laryngeal irritation to cause some anxiety. Latterly, I have simply laid them open freely, and cut away the projecting portions of the sacs, leaving them to suppurate. When suppuration has failed

to destroy the secreting surfaces, they have been made to granulate and cicatrize from the base, by daily injections of the tincture of iodine. In every instance in which the patients have remained under my observation, any length of time a complete cure has been effected. In regard to any other of these plans of treatment which might naturally suggest themselves, such as the employment of internal remedies, and the application of discutients externally, I have no experience; that is to say, I have not tried them to any extent myself; yet in most or all of the cases which have come under my notice, therapeutical measures have been employed.

In my opinion these tumors are examples of enlarged bursæ, and I will proceed to state the grounds upon which I base this opinion. In at least one of the examples, and in perhaps two, seen by me, the tumor was situated above the thyroid cartilage, between it and the hyoid bone, where a bursa is usually found.

This bursa is not mentioned by Alexander Munro, secundus, in his "Description of all the Bursæ Mucosæ of the Human Body," published in 1770. Velpeau does not allude to it in his great work on the "Surgical Anatomy of the regions;" but in his "Nouveaux Eléments de Médecine Opératoire," published in 1839, p. 159, vol. iii, he speaks of "the mucous bursa of the thyroid cartilage" as being the possible seat of a sanguinolent effusion. I infer that the reference here made is to the thyro-hyoid bursa.

Grey, in his Anatomy has properly described the bursa; not, as, according to Horner, limited to the space directly under the centre of the hyoid bone, but as lying between the lamina of the middle thyro-hyoid ligament, and extending from the hyoid bone to the thyroid cartilage. I have found it of this length both in the infant and the adult, and generally from three to four lines in breadth.

Most of the examples, however, seen by me, have presented themselves below the thyroid cartilage, in some cases as low as the cricoid cartilage; and since they were, with one exception, globular, I have been unable to regard those situated below the top of the thyroid cartilage as prolongations of the thyro-hyoid bursa. It is possible, indeed, that the fluid of the bursa may have escaped in this direction, and then have been cut off, by adhesion, from the cavity of the bursa, but nothing in the history of these cases has indicated this, and I do not consider the supposition a probable one. They have from the beginning occupied the same, or nearly the same, position as that in which I have found them.

Certainly none of them had any connection with the isthmus of the thyroid gland, they were situated always above the gland—in no case nearer than within half an inch; and in no case has there been a simultaneous enlargement of other portions of this gland. In case 3 the tumor began to form soon after conception,

and the thyroid gland is well known to be subject to enlargement under these circumstances; but this tumor was situated at the top of the thyroid cartilage. While the thyro-hyoid bursa must explain a portion of these tumors, I am obliged to look for some other explanation of the majority of those which have come under my notice, and I think it may be found in a superficial or subcutaneous bursa, occasionally observed in front of the larynx, caused, probably, by the motion or sliding of the integument over the thyroid and cricoid cartilages—a bursa which may be found, generally small and imperfectly developed, in a certain proportion of bodies.

[The author then gives an abstract of ten cases illustrative of the above.]—*New York Medical Journal.*

Case of Glossitis and Abscess on the Tongue : By HENRY J. SMITH, L. K. Q. C. P., L. R. C. S. I., Borris-in-Ossory.

SHOULD the following brief notice of two cases which came under my notice seem of sufficient interest, you will oblige by inserting it in your valuable journal. On the 11th of this month I was consulted by a man, æt thirty-three, of healthy appearance and stout make. His wife, who accompanied him, described to me the history of his case (as he could not articulate intelligibly himself), as follows:—About two months previous, as was supposed, from the effects of a bad tooth a swelling arose under the tongue and about the jaws, which appeared to engage the sublingual and submaxillary glands. The symptoms at first appeared to be very acute, causing him much distress. He placed himself under the care of a medical gentleman in his immediate locality, and under appropriate treatment all acute symptoms seemed after a fortnight to have subsided; but a stiffness about the root of the tongue, with a slight difficulty of swallowing, remained, his speech being also slightly impaired. Various remedies were given with a view to relieve these symptoms; but instead of improving they became gradually worse, and, with the advice of his medical attendant, he consulted another surgeon, who examined the case and gave the patient some medicine, to be taken daily, with a view to afford relief, and directed him to return in some days. However, finding all his symptoms becoming more urgent he naturally became very much alarmed, and sought my opinion, when his case presented the following symptoms:—He could not speak intelligibly, swallowed with extreme difficulty, the effort causing much pain and a sense of suffocation; his countenance evidenced much anxiety and distress, and he feared himself he was about to die, and that nothing could be done for him. On examining his throat externally and parts adjoining no marked swelling was manifest, only in the mesial line, beneath the base of the tongue, where there was a well-marked tendency and fulness.

On opening the mouth it was at once observed that the base of the tongue was so enlarged as nearly to fill the space surrounding it. On catching the point of the tongue in a dry towel and drawing it forward the act caused extreme pain, but enabled sufficient view of the fauces and tonsils to be obtained to see they presented no diseased condition. On pressing the forefinger into the mouth the base of the tongue was found to be considerably thickened; and on drawing it well forward a point more yielding than the rest was discovered along the raphe. The diagnosis arrived at was that at the time of the original attack of inflammation the body of the tongue was engaged, that it ran into the suppurative stage in this situation, and that the present distress arose from a collection of deep-seated matter in this organ. After I had concluded my examination the man and his wife were most urgent upon me to express my opinion as to whether anything could be done or not—being so long ailing, and getting worse every day their alarm became very great. I told them at once, if my opinion as to the cause of his great distress was correct, I could afford him relief in less than a minute; but that he should allow me to make a free cut into his tongue. To this he at once agreed, and having drawn forward his tongue well, and placing his head in a forward direction to prevent matter, if there, from suddenly gushing backwards, I made a free and deep incision into the swollen organ, and was gratified to find it was followed by over a dessert-spoonful of matter suddenly gushing into his mouth, giving instantaneous relief to all his urgent symptoms. I saw him in a week afterwards quite convalescent.

Twenty years ago I was called to see a young man who I was informed was choking. On a careful examination I found exactly a similar state of the tongue to exist, the symptoms being, however, more urgent and more rapid in their development. I treated it similarly, and with the same result; and it was the recollection of this case that led me to so soon form a correct diagnosis in the present instance. I consider that such cases are very rare, and this brief notice of them might be of use to others if placed in similar circumstances.—*Medical Press and Circular*.

Hot Baths in Strangulated Hernia.

DR. GIFFORD relates, in the *Boston Medical and Surgical Journal* of December 30, how he had cured himself of left inguinal hernia for some years by wearing a truss. In January, 1868, however, the bowel again re-descended. He felt it descend, accompanied by a good deal of pain; went home, and endeavored to reduce the tumor, which was about the size of a goose-egg, and so hard and tense and tender that he could do nothing. Severe colic ensued, and the tumor became exquisitely tender. During the

night copious bilious vomiting occurred, and the peritoneum became quite tender, for which he took two grains of morphine. Next morning, having previously fully prepared for the operation in case of failure, he was put into a warm bath, of temperature 110 F., at which point the heat was kept till he was almost collapsed. Taxis was used when he was in the bath, and reduction took place. The doctor says this illustrates the utility of waiting and resorting to every known expedient before operating when the symptoms are not extremely urgent, Erichsen teaches to chloroform the patient, and try taxis, not exceeding half an hour; if not successful, then to operate at once. Of course, in severe cases, in which the strangulation had existed for some time, such a proceeding would be proper; but in cases like this, with no stercoraceous vomiting, and comparatively mild symptoms, Dr. Gifford should not think it advisable to operate soon after the formation of the hernia, even though the reduction could not be effected with the aid of chloroform or ether.—*Medical Press and Circular*.

Resections of Joints.

DR. HANNOVER, of Copenhagen, brings forward evidence to prove that the sanguine reports of the Prussian surgeons as to their success in resections of joints have in no respect been confirmed, after five years of observation. In the majority of instances the patients reported to be cured were left with dangling limbs. Amputation would have been preferable, he adds, as the limbs are burdensome and useless. Of course, this is an exaggerated view of the matter; but there is much to be learned from the Report.—*Medical Press and Circular*.

Removal of Lower End of the Rectum.

PROF. NUSSBAUM'S (of Munich) case of removal of a portion of the rectum and prostate affected with epithelioma has made a great noise in surgical circles. It appears that, when cancer of the rectum removed by operation recurs, it does so after longer intervals than any other species of cancer. Dr. Nussbaum began the operation by making two semicircular incisions round the anus, and, carrying the finger upwards, he separated the healthy from the unhealthy tissues to the depth of four inches. After four arteries had been tied, the bleeding ceased, and the bowel was then drawn down and secured to the skin. The man lived, it seems, three years after this operation, but succumbed to the same affection at last.—*Medical Press and Circular*.—*Medical Record*.

Clinical Lecture on Stricture by Mr. Paget.

IN a recent clinical lecture by Mr. Paget, he remarked on the morbid sympathies of the male urethra, which were quite peculiar to that mucous membrane. Syncope sometimes follows the passing of a catheter, as also epileptiform convulsions. These effects, however, only arise when the patient is standing, never when he is lying down. Rigor after passing catheters was said to be commonest in persons who had suffered from ague or lived in hot climates, and might often be prevented by the administration of alcoholic fluids. Mr. Paget mentioned that he had known death follow from simply sounding for stone in six cases. Pyæmia occasionally follows catheterism or lithotrity, apparently from irritation of the urethra, without any injury being done to its structure. Urethral rheumatism, he added, is a complaint presenting many points of resemblance with pyæmia. Any inflammation of the urethra may be followed by swelling and effusion into the joints, whether such inflammation were contagious or not.—*Medical Press and Circular.*

Puncture of the Knee-Joint in the Treatment of Synovitis.

PROF. FAYRER (*Indian Med. Gazette*), after treating five cases of synovitis, speaks with confidence of simple paracentesis of the joint in the treatment of inflammation, and as he believes it is capable of affording great and rapid relief from pain, as well as of expediting recovery, he has no hesitation in recommending it; but it must be borne in mind that the operation is to be performed with the greatest care, and that every precaution be taken to exclude the air.—*Medical Record.*

Use of Anæsthetics in Childhood.

DR. T. HOLMES, Surgeon to St. George's Hospital, in London, is not aware of any limitation to the use of anæsthetics in childhood. He has administered them at the earliest period of life, and believes that, with proper care, operations are safer with than without them, even in the most exhausted and puny infants.—*Medical Record.*

New Treatment of Rickets.

MR. MARSH, of Dublin, has employed forcible straightenings of the bones in a case of rickets. The patient was put under chloroform, and the tibia, which were curved forwards, were forcibly straightened. The practice seems novel and promising.—*Medical Record.*

QUARTERLY RECORD OF PRACTICAL MEDICINE.

Collated by S. M. BEMISS, M. D., Prof. Theory and Practice of Medicine, Univ. La.

On a Purely Milk Diet in the Treatment of Diabetes Mellitus, Bright's Disease, Disease of the Supra-Renal Capsules, Fatty Degeneration, etc: By ARTHUR SCOTT DONKIN, M. D., Lecturer on Forensic Medicine to the University of Durham, and Physician to the Sunderland Infirmary and Dispensary.

IN my previous contribution I detailed two cases of Bright's Disease treated by a skim-milk diet. In one the treatment was perfectly successful; in the other—a much more serious and advanced case—only partially so. I shall now describe a third, one of a remarkable and interesting class of cases in which the renal affection is associated with and apparently produced by lead-poisoning, and to which attention has been specially directed in recent years by several pathologists, especially by the late Dr. Todd, Dr. Garrod, M. Ollivier, M. Charcot, Dr. W. Begbie, Dr. Grainger Stewart, and others.

Case of Lead-Poisoning and Bright's Disease, with Anasarca and Epileptic Coma; Recovery.—J. S—, aged forty-six years, a plumber, who had been much engaged in casting lead during the previous seven years; in this occupation he frequently suffered much from the fumes arising from the melted lead, which always affected his gums and loosened his teeth. The symptoms of lead-poisoning commenced about six years ago, and first showed themselves in pains in the legs and head, commencing in the occiput and extending over the cranium; the pain in the head had been continuous and severe, accompanied with great sleeplessness. During the whole period he suffered much from colicky pains in the abdomen and obstinate constipation, also from discharges of blood from the bowels, which continued more or less for several weeks, and then subsided for a period, to return again. With these symptoms there was great loss of flesh and strength, his weight having fallen from fourteen to nine stone; he suffered much from feebleness in the forearms and wrists, with emaciation of the extensor muscles. About four months before I examined him, he became gradually affected with loss of sensation on the left side of the body, face and extremities, and shortly afterwards with attacks of convulsions accompanied with loss of consciousness, recurring at first every other day, and then not oftener than twice a week. He had been under medical treatment on several occasions during his illness.

In March, 1869, this patient consulted me at the Sunderland Dispensary. I found him suffering from extensive anæsthesia of the left side and extremities, severe pain in the head, and sleeplessness. The epileptiform seizures had continued up to this time. There was loss of appetite, and great feebleness. A

characteristic blue line on the gums was well marked. He also complained much of constipation. There was slight œdema about the ankles. The urine was scanty, and highly albuminous. With the view of eliminating the lead from the system, the following mixture was prescribed:—Iodide of potassium, three drachms; tincture of iodine, three drachms; tincture of cinchona, an ounce and a half; infusion of calumba, ten ounces and a half; two table-spoonsful to be taken three times a day. An ounce of sulphate of magnesia was also ordered to be taken in the morning occasionally. The diet to be of the ordinary kind, but nutritious. Under this treatment he improved somewhat as to the symptoms referable to the nervous system; but the œdema of the feet and legs gradually increased until the 14th of May, when he presented himself, suffering from general dropsy. There was great œdema of the lower extremities and scrotum; so that he was almost unable to walk. There was also much puffiness of the hands, fore-arms and face; the urine was scanty, high-colored, very albuminous, sp. gr. 1015, and deposited great quantities of granular and hyaline casts of the uriniferous tubes. The epileptiform seizures were very frequent and severe, and the anæsthesia of the left side had become more complete.

A thorough change was now made in the treatment. The patient was placed on an exclusively skim-milk diet; six pints, warmed, were allowed daily, and acetate of potash in doses of twenty grains in water, thrice daily, was substituted for the iodide of potassium mixture. He began to pass at once about six pints of urine daily, and the anasarca gradually subsided. This treatment was continued for six weeks, and by the end of this period the fits became much less frequent, and the cephalalgia much less severe. The patient was now allowed, *in addition* to the milk diet, bread in the morning, and butcher's meat to dinner; and in the course of three weeks afterwards he resumed his work, but not amongst lead. Sensation gradually returned to the left side, and the albumen disappeared altogether from the urine. His health and strength gradually improved up to the beginning of October, when the epileptiform seizures ceased entirely, as well as the cephalalgia, and sensation was restored to the left side; the anasarca had never returned, and he had gained 1 st. 3 lb. in weight.

I last saw this patient on the 17th of December, when he continued quite well. He had, up to that date, continued to take large quantities of skim-milk daily, with butcher's meat to dinner, and bread thrice daily.

In this case it would be difficult to decide whether the epileptiform seizures and paralysis of sensation on the left side were the result of the *centric* action of lead as a poison on the nervous system, or of uræmia, or of both. It seems probable that they were due to lead, from their appearance before the renal affection was well developed, and their persistence after it had been re-

lieved. But from the coexistence of the two disorders they may have possessed a mixed character. Pure *renal epileptic coma* is a most fatal and formidable affection, generally destroying life after a few seizures.

From the history and clinical features of the three cases of Bright's Disease of which I have given a description, it is evident that they were illustrations of that class of renal affections to which Virchow has given the name of *parenchymatous nephritis*, in its chronic condition—cases in which the disease is seated chiefly in the glandular epithelium of the uriniferous tubes; and they were apparently, too, in the second or fatty transformation stage of the epithelium. In the case of W. M.—, who only partially recovered, the second stage was far advanced, or probably the third stage—that of contraction—had begun. This may reasonably be inferred from the predominance of hyaline over the fatty casts in the urinary deposits, and from the less controllable character of the disease than in the other cases.

So far my experience in the skim-milk treatment of Bright's Disease has been confined solely to the class of cases to which I have just referred. I have not had an opportunity of testing its efficacy in the waxy form of the malady; generally associated with, and dependent on, some cachectic condition—such as phthisis, caries of the bones, syphilis, and the like. Neither have I tried the remedy in the gouty or cirrhotic kidney.

In order to explain the therapeutic action of milk in chronic parenchymatous nephritis, it is necessary to comprehend fully the character of certain pathological conditions pertaining to the disease. In order fully to appreciate the morbid alterations which the kidneys undergo, and the effect of these alterations on the blood, it is necessary to remember that the kidneys are provided with a *double* capillary system—namely, a *primary* set of capillaries forming the Malpighian tufts, and a *secondary* set formed by the ramification of the efferent vessels of the Malpighian tufts into a network of fine vessels distributed between and around the convoluted uriniferous tubules. In the second place the kidneys are completely invested, each by a firm fibrous coat, or capsule, of a very unyielding nature.

It follows from these facts that, in the disease under consideration, as the convoluted cortical uriniferous tubules become swollen and distended by their humid, morbid, epithelial contents—glued together into solid casts by a fibrinous effusion,—and as the capsular investments of the organs yield but slightly and slowly to the distending pressure from within, generated by the swollen tubules, the *secondary* capillaries, being *external* to them, are mechanically compressed to a greater or less degree, and the circulation through them more or less impeded,—the blood is dammed back in the *primary* capillaries of the Malpighian tufts, which become congested and distended, the result being a large and persistent escape of albumen through their walls from the

blood. This seems to me to be the correct interpretation of the phenomenon of *permanent* albuminuria in this form of Bright's Disease after the early inflammatory period has passed away, and of the *pale* ex-sanguine appearance presented by the cortical substance of the kidneys. The pressure exerted by the confined swollen tubules must be very considerable, as shown by the expansion which the dense inelastic capsule undergoes in the enlarged kidney. The *primary* capillaries, or Malpighian tufts, are better protected from the influence of this pressure than the *secondary*, by their position *within* the dilated flask-like termination of the tubules, by their shortness and compact distribution, and by their *proximal* position to the arterial system and the propelling forces of the heart.

The effect of the continued drain of albumen from the kidneys is to impoverish the blood to such a degree that its albumen is reduced in some instances to as low as 16 parts in 1000, the healthy proportion being from 60 to 70 parts in 1000. By this serious deprivation of albumen, the specific gravity of the blood-serum is lowered from 1028, its average in health, to 1013 in some instances. This hydræmia, or watery state of the blood, in its turn rapidly destroys the red corpuscles, and produces general dropsy, aided, no doubt, by the fulness of the vascular system from the diminished withdrawal of water by the kidneys.

Lastly, the diseased epithelium of the uriniferous tubules only partially secretes the solid constituents of the urine, and the blood becomes poisoned by its own excrement, and epileptic coma may supervene.—*Lancet*.

Malignant Pustules Following Contact with a Horse Affected with Glanders—Death. (Under the care of Mr. DE MORGAN).

WE are indebted to the senior House-Surgeon, Mr. R. H. Lucas, for the notes of the following case:—Richard M., a cabman, aged 53, was admitted into Clayton Ward under the care of Mr. De Morgan, on March 1, 1870. Three weeks previously the man had been attending a horse suffering from glanders, and his wife stated that he was often in the habit of wiping the horse's nose with a cloth and putting the cloth into his pocket with his pocket-handkerchief. Fourteen days before admission he went to bed in his usual health, but woke up in the night feeling chilly and unwell, and four days later he noticed a swelling on the inner side of the right forearm. He consulted a chemist, and was advised to go to the Hospital, but he kept about, feeling extremely ill with frequent rigors and sweatings, until the day of his admission.

On admission the countenance was flushed, skin hot and pulse very rapid and small. On the inner side of both forearms, about the centre, were two fluctuating swellings, that on the right arm

as large as an egg, and very tender on pressure, the skin over them red, the whole arms being swollen and somewhat œdematous.

The abscesses were opened, and a large quantity of thick dirty-looking matter mixed with blood and blood-clots was discharged, together with several shreds of slough. The cavities were then syringed out with solution of chloride of zinc (gr.x to f̄j.), and poulticed. To take two pints of strong beef-tea daily with milk, and ʒvj. of wine, and gr.xv. of Dover's powder at night. Two days later, much swelling with redness and tenderness over the third and fourth metacarpo-phalangeal articulation of the left hand were noted. Both the legs were swollen and œdematous, abscesses forming on outer side of right and in left calf, with red patches appearing on other parts of the legs. The morning temperature was 99°, but this evening (March 3) it rose to 103.°4, respiration 36, and pulse 108. He was now ordered ʒx. of brandy, and ʒx. of best port. Also R pot. chlor.; sodæ hyposulphit. ââ gr. xv., syrapi f̄j., aquæ f̄j. Misce, 4tis horis.

Two days afterwards (March 5), the pulse, temperature, and respiration still keeping up, the patient wandering in his mind and passing urine and fæces under him, and the abscess in the right arm continuing to discharge much dirty-looking matter mixed with blood, the appearance of a pustular eruption was first noted. Two pustules having bright red areolæ appeared on the left leg. Two or three similar pustules were seen on the face on the day following, the morning temperature being now 103°, with a pulse of 112 and respiration 52, and copious sweating. The joints of the great toes were red and swollen. Ordered R Chloral. hydrat. gr.xxv.; aquæ f̄j. 4tis horis.

Next day (March 7), at 10 A. M., the temperature was 104.°4, pulse 140, respiration 56. He had passed a restless night, with delirium. Several fresh pustules had appeared on the legs, belly and head, and there were some red patches on the feet. Tongue thickly coated, At 10 P. M. the pulse was so rapid and irregular that it could not be counted. The patient was breathing very heavily—40 in minute—sweating profusely, and wandering a great deal. Temperature 104.6. He died at 3.20 A. M.

Autopsy at 2 P. M. on the day following.—Marked lividity of all depending parts, face, ears and lips, and on either side of spinous processes of vertebrae in dorsal region were numerous hard purplish ecchymoses. Pustules on toes, arms, and scalp of a purple color. Abscesses in arms containing thick dirty pus. On reflecting, scalp pustules were seen to extend through its whole thickness. There was some opacity of the brain membranes, and lymph in the arachnoid, with softening of the under surface of the anterior lobes and left middle lobes. The lungs were firmly and universally adherent, the bronchial tubes much inflamed, and containing muco-purulent fluid. The right cavities of the heart contained large firm post-mortem clots. The liver was

large and fatty, the kidneys normal, spleen soft, and with a cavity near its upper surface containing bloody fluid. Numerous dark ecchymotic patches in stomach, chiefly at cardiac end.
—*Medical Times and Gazette.*

Case of Snake (Cobra) Bite Successfully Treated by Suction, Liquor Potassæ, and Brandy: By JOHN SHORT, M. D., M.R.C.P.L., F.L.S., etc. Surgeon, Indian Army; Superintendent-General of Vaccination, Madras Presidency.

A native named Gooroven, who was in the habit of bringing me snakes (cobras) came on the 8th of January, 1870, and presented himself at my house, accompanied by a friend of his, who brought a fresh vigorous cobra, over five feet in length, in a small covered earthen chatty, at 12 A.M. Gooroven's friend was asked to show the cobra, which he did; and on examining and finding that the fangs were intact, I directed him to put the snake up again and went into the house. In a few minutes my peon came into the verandah and said, "He is bitten." I ran out, and the peon pointed to Gooroven, who stood on the steps of the house, with his hands hanging down, while the index finger of the left hand was extended, with blood flowing from two points on the back of the second phalanx. I pulled off the eye-glass from my neck to save time, and cutting the cord to which it was attached, tied one portion around the base of the wounded finger, and another across the wrist. With the penknife from my pocket I opened out the punctures to the extent of a quarter of an inch; applied my mouth to each of the wounds in succession, and sucked vigorously several mouthfuls of blood; meanwhile, a basin of cold water having been brought, the wounds were well washed, and had liquor potassæ applied freely to each. I next gave the patient three ounces of brandy, with half a drachm of liquor potassæ; and then applied two other ligatures, one above the elbow and the other high up around the arm, as tight as possible, so as to stop the circulation in the part; and on looking at my watch I found it 12.25 noon. I ordered my carriage, and, placing the patient in it, drove off to the General Hospital, where we arrived at 12.40 noon.

Dr. Thomas soon arrived, and very kindly allowed me to suggest the treatment to be pursued. At my request, Mr. Allen, the apothecary on duty, took careful notes of the temperature and pulse, as well as of the case generally, from time to time, which I am sure will be read with interest by the profession generally. I remained at the hospital five hours (till 5.30 P.M.), and then went home; visited the patient again at 8.30 P.M., and left him to the care of Mr. Allen at 9.30 P.M. The patient was now thoroughly drunk from the effects of the brandy he had taken, and was talking incoherently. I drove over to the General Hos-

pital the next morning, and was happy to find the patient quite well, walking up and down the verandah; but the hand and forearm were swollen. The case was now transferred to Mr. Cockerill, the officiating Surgeon of the General Hospital, according to the usual custom at that institution.

The following is the report by Mr. Allen: Goorooven, aged thirty, caste Jogee, occupation snake-catcher, temperament sanguine, was admitted into hospital on the 8th of January, 1870, at 12.40 P.M., reported to have been severely bitten by a cobra in the house of Dr. Shortt, while in the act of securing the snake in a vessel. The bite was very shortly after incised, and sucked out; and ligatures were applied very tightly round the axilla, wrist, and first phalanx of the left index finger. After admission, a screw tourniquet was applied about the insertion of the deltoid muscle, two large veins on the dorsum of the left hand were opened, and his hands placed in a basin of water, containing two drachms of the liquor potassæ to a gallon of water. At 2 P.M. his pulse was 60 per minute. Ordered brandy, one ounce; liquor potassæ, half a drachm; water, one ounce. To have the hand immersed in warm water, containing half an ounce of liquor potassæ to a gallon.—2.15 P.M.: Pulse 64. Continue brandy with liquor potassæ.—2.30 P.M.: Pulse 66. Continue the brandy, etc. 2.45 P.M.: Pulse 64. Brandy, an ounce and a half; liquor potassæ half a drachm; water one ounce.—3 P.M.: Pulse 60. Brandy, two ounces; liquor potassæ half a drachm; water one ounce.—3.15 P.M.: Pulse 62. Nil.—3.30 P.M. Is now under the influence of alcohol. The ligature round the axilla removed; much pain complained of; pupils normal; pulse 65; temperature 92 deg. Chloroform to be rubbed into the painful part, and to have brandy half an ounce; liquor potassæ fifteen minims; water, one ounce.—3.45 P.M.: Pulse 63; in other respects the same. Continue the brandy with liquor potassæ.—4 P.M.: Pulse 66; temperature 88 deg.; pupils normal. Is still under the influence of alcohol. Pain still complained of, very much in the arm. To continue the chloroform friction, and brandy with liquor potassæ. 4.15 P.M.: Pain a little relieved; pulse 66; respiration 30. Repeat the brandy, with liquor potassæ.—4.30 P.M.: Temperature 88 deg.; pulse 64; pupils normal. Is inclined to sleep, but is kept awake by the pain in the arm, which he says is intense, and begs that the tourniquet be removed. Veins bleeding freely. Chloroform friction, and to continue the brandy with liquor potassæ.—4.45 P.M.: Pulse 66; respiration 26; pupils dilated, and rather sluggish. Pain a little relieved. Still under the influence of alcohol. Continue brandy, with liquor potassæ.—5 P.M.; No change; tourniquet removed. To have brandy, with liquor potassæ every half hour, and ordered to be kept steadily under the influence of alcohol. Bleeding arrested by pads of lint and bandage; hand to be immersed in cold water, containing one ounce of liquor potassæ to a gallon of water.—5.15 P.M.: Pulse 84; respi-

ration 20; temperature 90 deg.; pupils dilated and rather sluggish. To have half an ounce of brandy, and fifteen minims of liquor potassæ in an ounce of water; to be repeated if required. 6.15 P.M.: Pulse 86, full and bounding; respiration 24; temperature 88 deg. in the axilla of affected hand; of unaffected axilla, 94½ deg.; pupils normal; remains drowsy and noisy.—7.15 P.M.: Pulse 108; temperature 97 deg. in axilla of unaffected side, and 94 in axilla of affected side; complains of great pain in the bitten hand. No bleeding except from the bite.—8 P.M.: Bleeding arrested by a small pad and bandage; had a pint of congee (arrow-root); is quieter.—9 P.M.: Complains of great pain. To have an ounce of brandy, and fifteen minims of liquor potassæ in an ounce of water; also chloroform friction.—10 P.M.: appears to be in great agony, grinding his teeth and stamping his feet on the ground, and on this account I am unable to take the temperature of his body; pulse 104; pupils dilated and sluggish; chloroform friction.—12 P.M.: Patient is quieter, does not complain of pain; passed urine, for the first time after admission, at 11.30 P.M.; temperature in right axilla, 99 deg.; in left, 100 deg.; pulse 108; pupils less dilated, and not so sluggish; half a pint of soogee congee every two hours.—1 A.M.: Patient does not look drowsy; pupils normal; pulse 108; temperature of left axilla 101 deg.; of right, 100 deg.; voided urine.—2 A.M.: Pulse 112; temperature of left axilla, 100 deg.; of right, 101½ deg.—4 A.M.: Pulse 112; temperature of left axilla, 100 deg.; of right, 98½ deg.; pupils normal; complains of pain in the bitten hand, and begs that the bandage be removed.

Case made over to Mr. Cockerill, at 8 A.M.

9th.—The patient remained only 24 hours in hospital under the care of Mr. Cockerill, and took the liquor potassæ in ten minim doses, with one ounce of brandy every four hours. He took in all one ounce of liquor potassæ and six ounces of brandy. The bandages were removed, and lead lotion was applied to the hand.

10th.—The patient having left the General Hospital at his own request, presented himself at my house at 9 A.M. Forearm and hand swollen, some three or four small blisters about the size of a sixpenny bit on the back of the hand; wound looking sloughy. Recommended to immerse his hand frequently during the day in warm water, and to support it in a sling.

11th.—Much the same as regards the swelling of the forearm, but the patient feels in other respects quite well. Brandy one ounce; water dressing to wound.

13th.—Did not put in an appearance yesterday, but came this morning. Swelling of forearm and hand subsiding. The two last phalanges of the index finger have mortified, and the part is black and shrivelled. Is otherwise quite well.

15th.—Is quite well; swelling of forearm completely subsided, a little remaining on back of the hand. The last two joints of the index finger are quite shrivelled and black, and a separation of

the dead from the living tissues begins to show at the top of the third joint. Recommended to have the dead joints removed, to which the patient consents. This will be effected in a day or two.

Remarks.—I feel diffident to talk of myself; but in the cause of science and truth, I must suppress my own feelings and relate facts. The blood I sucked out of the wound had a very peculiar taste, and although this attracted my attention at the time, I was in too a great a state of excitement to remember what the taste was like. I felt nothing strange till about a couple of hours after the accident occurred, when I began to feel a tightness across the gums and roof of the mouth, in the space between the two incisors. This was followed by a sharp stinging pain of a peculiar burning character. I was somewhat restless and uneasy, and shortly after began to feel languid and faint; when, for the first time it struck me that I might have imbibed some of the poison into my system. I became alarmed and anxious about myself, and lay down on one of the hospital cots, next the patient for a few minutes; and, on telling Dr. Thomas that I was not feeling well, he kindly suggested that I should take some brandy and water, which I did, and felt somewhat better after it; while the pain and uncomfortable feeling in the roof of my mouth still continued, and my bowels were inclined to act. I did not give in to the feeling but resisted it altogether. At 3 P.M. the uncomfortable feeling extended, not only to the roof of the mouth, but to the same extent in front of the incisor teeth, to the gums under the upper lip. I had lost my appetite for dinner in the evening, and on retiring to bed as usual, I slept soundly that night; but about four next morning, I was awakened by an acute burning pain in the roof of the mouth, which continued for a couple of hours and then left, leaving behind a soreness, not only at the roof of the mouth, but extending to the tongue, to the extent of an inch from the tip. This feeling became more acute on attempting to take my usual cup of tea, nor could I taste any curry or other dish prepared with condiments which did not give me instant pain.

10th.—the roof of my mouth and tongue are very sore and tender this morning. In other respects I feel quite well.

15th.—The roof of my mouth, gums, and tongue are still tender. I believe that the sucking out of the poison from the wound was the main cause of saving the man's life, yet at least five minutes, if not more, must have elapsed between the time the man was bitten and the suction of the wound, and there must have been ample time for some of the poison to have entered the system, the cobra was fresh and vigorous, over five feet in length, and captured only that morning, and the effect produced on my mouth was the best evidence that ample poison was injected into the wound. I believe that the subsequent potash treatment, both internally and externally, on which I solely depended in this case, had its action expedited by the stimulant effect of the

brandy, and aided materially in perfecting the cure. The objects I had in view were: 1st, to remove, if not all, as much of the poison from the wound as was possible by suction; 2d, to arrest the poison being carried into the system by the application of the several ligatures along the hand and arm; 3d, to destroy any portion of the poison that may have been left in the wound, by the free application of the liquor potassæ. The liquor potassæ was given freely internally with the view of saturating the blood, so as to render it thoroughly alkaline, that any poison found in it might be decomposed. 5th. At the hospital the screw tourniquet was applied, to supersede the other ligatures, as being likely to cause less pain than that produced by cords. The tourniquet was maintained for four hours continuously; and fearing that mortification would ensue if continued longer, it was then removed. After the application of the tourniquet, two of the largest veins on the back of the hand were opened with a lancet, and emptied of their contents, with a view of relieving the vessels of any poisoned blood that they may have contained; and the hand up to the elbow was immersed in warm water, containing from one to eight drachms of the liquor potassæ to the gallon, for about four hours, to encourage bleeding, and substituted for cold water, containing the same quantity of the liquor potassæ, for the next four hours; and as the veins continued to bleed more freely than was intended, the bleeding was arrested by pads and bandages. The potash bath to the arm was continued for eight hours in all, with the hope that some portion of the potash might be absorbed through the skin, and destroy any poison that might have been taken up between the wound and ligatures.

I would here observe, that sucking a poisoned wound, and especially that occasioned by a cobra, where the venom is so very powerful and energetic, will always be attended with risk to the operator, and most probably imperil two lives instead of one. Under these circumstances, to obviate the risk as much as possible, I would suggest that, in those cases where it is feasible, the patient himself should be urged to suck out the poison from the wound, so as to reduce and confine the peril to the individual who had the misfortune to be bitten.

I hope on a future occasion to detail a mode of treatment to be pursued in all such cases. Of course, there is nothing new in the sucking of a poisoned wound; this is well known to medical men generally. I only claim the fact of having brought it practically into successful play. But the potash treatment is original, and my own, based on numerous actual experiments, carried out from time to time at much expense, trouble and risk.

The accident is said to have occurred thus: After I had examined the snake, Goorooven seized it and thrust it, tail foremost, into the earthen chatty in which it was brought, and having placed the whole of the snake bodily into the vessel, he held his head with the thumb and forefinger of the left hand, and holding

the cocoa-nut shell ready to shut the mouth of the chatty with his right hand. In letting go the head of the snake, he appears not to have been sufficiently quick with the shell in covering up the chatty, and just as he let it go, the snake, which was in an excited state, flew at and seized the back of his index finger. The bite was severe and but the work of a moment. The man himself became greatly alarmed, and being alive to the results of such accidents, alluded, in desponding terms, to his wife and children. I had much to do in allaying his fears and cheering him with hopes of recovery.

These men, as a class, are a very rude set, and are fully aware of such dangers, but from habit they soon grow reckless. In fact, I often wonder that accidents of the kind do not occur more frequently; and that they do occur is certain, though nothing is known of such occurrences, as the people live in the outskirts of the town or village, in small, scattered communities, consisting of a dozen huts at most, and, from erratic habits, are constantly changing their abodes from place to place, so as to render little or nothing known regarding them.

I believe this is the first authenticated instance in which a man, fairly bitten by a fresh, vigorous cobra, recovered by rational treatment. It is a source of pleasure and thankfulness to me that I have been the humble instrument in saving this poor fellow's life, though it was at the risk of my own; and in the saving of the life of this single individual I feel that I have been amply rewarded for the trouble, risk, and expense I have been put to, in the several experiments which I have been conducting from time to time since 1866.—*Lancet*.

Madras, 15th January, 1870.

The Therapeutic uses of Chloral: By STEPHEN MONCKTON, M. D.,
Physician to the West Kent Hospital, Maidstone.

SEVERAL short papers on the subject of chloral have appeared in the different journals. I would here give an account of my little experience.

I have given perhaps fifty doses, among about ten different patients, in the last three months—often with remarkable success; sometimes with partial effect; never with mischievous results, beyond a little delirium lasting an hour or two, resembling that of the second stage of chloroform, and proving (though not pleasant for the time to those around the patient) very transient and innocuous.

The drug, being pungent and unpleasant to take, should be freely diluted. Not less than an ounce and a half of water should be the vehicle for every dose of twenty grains or upwards. A little sugar or syrup is also desirable. Though disagreeable, the

draught has never caused vomiting, over which, if already existing, it seems to exercise a remarkable control. When it is swallowed, the effect is generally speedy. It is well, therefore, that the patient should not take it till actually in bed. Less than ten minutes will sometimes suffice to send him fast asleep. One man (in the hospital with subacute rheumatism) became delirious—*i. e.*, noisy, irrational, and rather cheerfully excited—after a twenty-five-grain dose; and twice in the female wards the good effect has been very partial, perhaps from the light and movements surrounding the patient through the night. This suggested to me the practice of bespeaking darkness and quiet for every patient for whom a night-dose is ordered.

The soporific effect is sufficiently prolonged; five, eight, and ten hours' sleep, with generally a short break and semi-consciousness in the middle, being common enough; while a decided but not unpleasant sleepiness sometimes pervades the following day.

In the short series of cases on which alone I profess to base this paper, it has not once happened that headache, vomiting, or fever, harassed the patient on waking up. On the contrary, it has seemed to me clear that chloral, in doses of from twenty-five to fifty grains, is a very effective anodyne, antispasmodic, and hypnotic; that it possesses many recommendatory qualities and few drawbacks; whilst some of its partial failures are doubtless due to surrounding interferences and insufficiency of dose. It is very certain that twenty or twenty-five grains will sometimes give a strong man a wakeful and exciting night, when forty or fifty grains would have secured sound sleep.

The following three cases, of different types, seem worth giving very shortly in detail:

CASE I.—Mr. C., a grocer, aged 76, came in October last with symptoms which led me to seek and find a recent left inguinal rupture, of only a few days' standing. He was recommended to procure a truss, and returned no more. Three months afterwards, his daughter sent an urgent summons at 7 A.M., and I found him in the agonies of intestinal obstruction, symptoms having existed about twelve hours. No external hernia could be discovered; in fact, it had never come down since the first application of the truss. But there was a hard, globular, painful tumor, between the internal abdominal ring and the umbilicus on the left side. His pain was great, vomiting incessant, and belly rather distended. I ordered half a drachm of chlorodyne immediately, half as much to be repeated every two hours; and fomentations without measure. Twelve hours afterwards (7 P.M.), he was worse; the pain, sickness, and restlessness were most distressing. By care, he sipped down and retained forty-five grains of hydrate of chloral in an ounce and a half of water, with a few grains of sugar. At 10 the next morning, he had had a quiet night, with several hours' sleep; and had only retched once. The abdominal condition was unchanged. His countenance

was good; his tongue moist; his head comfortable. Hesitating to credit the chloral with such power for good, I assumed that a quiet revolution of the intestinal difficulty had occurred. But, in a few hours, pain and vomiting returned; the abdomen was more swollen; and the ejecta became distinctly stercoraceous. So it was proved that, in spite of unrelieved obstruction, the chloral had commended quietude when strong opiates failed, without inducing that parched, stupefied, and miserable state which opium brings about, and never more surely than in the case of old people unaccustomed to its influence. On each of the next three nights, a fifty-grain dose of chloral was given, with satisfactory effect. Soon a liquid trickling *per anum* set in, passing gradually into natural dejection. Within a fortnight, the old man had fairly recovered.

CASE II.—Dr. D., an acute and sprightly old gentleman of 72, had been going wrong for some weeks with heart symptoms, probably dilatation of the right cavities. There were dyspnoea, tumultuous action, no *bruit*, feeble and very irregular pulse, with some cough and expectoration. By February 1 his countenance had become rather livid, his dyspnoea urgent, and his legs swollen to the knees. After several nights of short and broken sleeps, from which he awoke in distress, his daughter begged permission to give him some opiate pills then in the house. Instead of them, he took thirty grains of chloral at 10 P.M. He was asleep in five minutes, roused and spoke to his daughter at 3 A.M., then slept again till 10 A.M. without disturbance, stupor, or dyspnoea. I found him comfortable, but sleeping, at 10.30; unwilling to remain in bed because of a mutton-chop that was waiting on the breakfast table. He has taken a few more doses, and is in greatly better condition. Although the slumber was long and sound, he quite recollected walking and talking at 3 A.M. The sleep was therefore non-comatose in character.

CASE III.—Miss H., a tall slender girl, aged 20, with a large cavity at the right apex, in fact dying consumptive, was much worn with night-cough and nervous insomnia, expectoration not very profuse. She took thirty grains of chloral a month ago at bedtime, and slept more than eight hours, without being at all overwhelmed. She then rose to breakfast, and slept afterwards for the greater part of the day on a sofa. Since then she has taken eagerly the same dose four or five times a week with the happiest effect; and no constipation, headache, or impeded expectoration has ever appeared to follow.

Possibly, this homely record of my little experience may induce others in hard practice to lay aside natural and honorable misgivings and try this medicine for themselves. I shall watch for opportunities of giving it in acute rheumatism, chorea, neuralgia, spasmodic asthma, anæmic insomnia, and even inflammation.
—*British Medical Journal*.

PATHOLOGY, PHYSIOLOGY AND ANATOMY.

A Peculiar Appearance of the Tongue in Malarious Diseases.—By
T. C. OSBORN, M. D., Greensboro, Ala.

FOR several years it has been a cherished wish of mine to deposit in the archives of the American Medical Association a drawing and description of a peculiar appearance of the tongue in malarious diseases, but, until now, owing to a combination of circumstances, I have had no opportunity for accomplishing the purpose.

This desire was actuated by many good reasons, and, amongst them, I will enumerate apologetically—

1st. That the record of the Association is the most appropriate place for such a history.

2d. That the discovery is sufficiently important to entitle it to a place on such a record.

3d. My anxiety to specify, in a distinctive manner, the features which characterize the phenomenon.

And 4th. To assert unequivocally my claim to the discovery, because it had been told me that a German writer had appropriated the idea without allowing me credit for it.

My claim to the discovery dates August, 1851, at which time it was announced in the *Western Journal of Medicine and Surgery*—then published in Louisville, Kentucky—as an essay read before the Medical Society of Greensboro, Alabama, in the month of June preceding its publication.

The main points in that effort were: 1st, an attempt to describe a constant condition of the tongue, which I thought to be pathognomonic of malarial infection; 2d, to declare it an unquestionable evidence of periodicity in disease; and 3d, to urge its great value as a therapeutic indication, specifying quinine as the appropriate remedy; and giving a series of cases illustrative of the grounds upon which my conjectures were established.

As a discovery promising such valuable results, the main portions of the essay were republished in quite a number of home and foreign journals, but owing to a want of clearness and accuracy in the description there given, it nearly failed impressing its merits upon public attention. I have seen a notice of it in only one of our standard text books, and that merely as a footnote, under Malaria, in *Wood's Practice of Medicine*. It was taught by Professor Howard to his classes in the University of Virginia, and also by Professor Bemiss in the University of Louisiana, who likewise states that he was preparing to write on the same thing at the time my article appeared in print. The general silence of the profession, however, indicates plainly enough that I had failed to make it as impressive as the im-

portance of the subject required; and I am determined that such a charge shall no longer find a lodging at my door.

During the eighteen years that have elapsed since I wrote that essay my opportunities for carefully observing the phenomenon have been as ample as I could desire, and to day I declare that what was once only conjecture is now unequivocal conviction; and that my youthful impressions, instead of paling by time, have become fixed as a venerated reliance upon the accuracy and veracity of its significant teachings. I am now fully prepared to assert its claims to public confidence and to specify its features in a more appropriate manner.

Through the skillful assistance of a lady friend I am enabled to exhibit a fair drawing of the malarial margins of the tongue and to direct attention to its distinctive characteristics.*

The design is intended to represent the phenomenon in its most perfect development when the system is fully saturated with the poison, leaving the observer to infer its various shades of intensity, which are always in direct proportion to the amount of malarious infection. It will be noticed that the middle of the tongue is heavily coated with a dirty fur, which thins off towards the point, where the color of the papillæ can be seen pressing through the attenuated coating; whilst on the sides of the fur there are clean, smooth, depressed margins, having a bright red color.

The sides or edges of the tongue are flattened, pinkish, and traversed by sharp lines, creating the impression to the eye of the observer that the parts are crenulated, striated, corrugated, puckered, or crimped—either term having a shade of appropriateness—but which, upon close inspection, will be found situated in the substance of the tongue, leaving the mucous membrane even and smooth to both sight and touch.

It is necessary that I should dwell minutely in the description, as the terms employed imply a probability that the teeth have something to do with the crenated appearance, which is not the fact, as may easily be demonstrated in those cases of infancy, and of old age, where the teeth are not present to complicate the question. When the eye becomes familiar with the appearance, it will be found very different from the thin and tremulous tongue in low forms of fever, in which, by its great width, the teeth imbed themselves in its edges. And, on the other hand, the transverse lines are too closely set to allow the idea of dental implication.

The malarial margins begin forming, the moment the poison enters the blood, and continue steadily representing, by various shadings, the measure of the infection, as long as a particle remains in the system. That peculiarities of constitution may have important bearings upon it, rendering the metrical indica-

*We regret our inability to publish with this article the plate originally appearing in the Proceedings of the American Medical Association.—Eds.

tion somewhat inaccurate, can be, in this, as in all other physiological phenomena, readily believed; but that the sign is ever totally absent when the toxæmia exists, is a proposition involving, in my estimation, too much absurdity to require any amount of serious reflection.

Hence, with this important sign alone, if there were no other evidences at command, we are enabled to verify the prevalence of malaria during the winter months; and, on the other hand, to prove the great length of time the poison may remain dormant in the system, the individual meantime apparently enjoying the best of health. It is my observation that this peculiar tongue may persist for years in persons residing in swampy districts, and become neither intensified by frequent exacerbations of fever, nor entirely dissipated by established convalescence.

The furred coating, as seen in the drawing, is not essential to the completeness of the picture, and is noticed at all only as the most common condition of the tongue, in either health or disease.

The color is, also, not unvarying, the identity of the impression being easily recognized under any complexion the tongue may be forced to assume.

Nor does the figure of the tongue modify or control the malarial feature in the least degree. On the contrary, it can be distinctly recognized under any of the various shapes to which the tongue is ever liable.

It follows, then, that *smooth margins*, more or less wide, and *the slightly flattened and crimped sides, or edges*, constitute the pathognomonic indication of malarial toxæmia, whether the color be red, white, or blue; the centre clean, or furred; or under any configuration the tongue may assume in health or disease.

To account for this singularly truthful appearance, I have supposed that the peripheral extremities of the ganglionic nerves, which are distributed to, and regulate the insensible contractility of the capillary system, are the first to recognize the presence of the poison in the blood; as well, also, as the first and principal sufferers from its paralyzing influence. In this way, perhaps, the sides of the tongue which are so liberally, nay, extraordinarily endowed with a blended association of vaso-motor and sensory nerves, become perceptibly disarranged in conformation, the capillaries contracting their ordinary dimensions, and the fibrous network being allowed to stand out like linear intersections.

A shade of probability is given to this explanation by several physiological phenomena, amongst which I will only mention, first, that the papillæ of the tongue, always abundant and prominent in influenza, are much less so in those cases where the margins are marked by malaria; 2d, that the iris contracts strongly under the stupefying influence of opium; and, 3d, that the hearing is rendered morbidly acute under the partial anæsthetic influence of chloroform.

But, after all, I am not engaged in theorizing upon physiological

perplexities, so much as in the statement of facts having pathological bearings, and, at the same time advocating the fidelity of an indicator, by means of which invasions of fever may be averted, or its malignancy controlled by appropriate medication.

Can it be that this interesting phenomenon is identical with, or dependent upon a non-fluorescent condition of the tissues? Bence Jones, Chalvet, or the Drapers may take the question, and make the most of it; but that the malarial margins of the tongue indicate, in an imperative manner, a necessity for the remedial virtues of quinia, is a proposition about which there is not a spot to lodge the smallest doubt upon.

Cases of fever, as well as other diseases, occur in the practice of medicine in which quinia is injuriously administered, basing the necessity for its use upon one or more of its reputed virtues; but in no instance have I ever seen other than beneficial effects from the remedy, even in extraordinary doses, when warned by the tongue that malaria—whatever that poison may ultimately prove to be—was lurking in the system as a predisposing cause of disease.

Indeed, it is an habitual expression of mine, that I hold the tongue responsible for the appropriateness of quinia, it matters not to what class the disease may belong, or what the character of the diathesis or idiosyncrasy with which the patient may be at the time endowed.

This will, no doubt, be considered fast riding on so small a hobby; but, until I have reason to suspect my footing, no change is likely to be made either in the order or direction of the journey.

It is very often extremely difficult, at the first interview with patients, to discern, with anything like certainty, the hours of exacerbation and repose, in cases of nervous and inflammatory diseases, where malaria is lurking in the background; and if the tongue was serviceable only in unmasking such cases, its value as a diagnostic sign would be incalculably great; but when at the same time it will afford an equally certain indication for a special and efficient remedy, thus divesting the disease of its greatest danger, and restoring to the vital powers all their recuperative energies; surely, we cannot easily over-estimate its intrinsic worth.

The following cases are selected from among a vast number, as illustrative of the important part played by malaria in different classes of disease:

CASE I.—During the autumn of 1854, a young man of small stature and feeble constitution visited the Southern States for the purpose of warding off climatic influence in the development of phthisis pulmonalis, to which he was hereditarily predisposed, and towards an attack of which he seemed to be certainly tending. After residing two months in a paludal district, he was attacked with cough, hæmoptysis, pectoral distress, diurnal fevers, night-

sweats, and finally diarrhœa. Several physicians in turn treated the case, all acting upon the conviction that tubercular maturation was rapidly progressing, and all concurring in the opinion that he would not live through the spring months. At last a comparatively young physician was called, who, finding the tongue distinctly margined and crimped, gave quinine in liberal quantities for several days, until the case cleared up, and then hastened convalescence by the free administration of the mineral acids, beef, porter, cheerful associations, and gentle shower baths after light suppers, until the patient was quite restored to his ordinary health.

CASE II.—In 1857, an epidemic dysentery prevailed extensively in Alabama, and many newly-made graves attested the foot-prints of the destroyer.

In my field of labor, a large majority of the cases exhibited unequivocal evidence of the malarial origin of the disease, and, in all of these, quinine was very serviceable in their remedial management.

A lady having a violent and protracted attack of this disease, called me some distance away, for the purpose of consulting with two physicians in attendance, who were nearly despairing of her recovery. On examining the tongue, I found, by the sides of the parched centre, broad red margins, and deeply crimped edges; and upon that indication of the malarial origin, or complication of the case, I based my advice to use quinine liberally, as soon as a period of repose in the violence of the fever occurred. The advice was accepted, and, after a few days, the case cleared up, little else being required to establish convalescence.

CASE III.—A valuable negro woman was sent to me from a neighboring county, in the year 1859, who had for three years an almost incessant issue of blood from the womb, in spite of the best directed efforts of three respectable physicians, under whose care she had been alternately placed. Surprised, as I was, to find no other morbid condition of the uterus than an inordinate paleness, I took the wide smooth margins, and deeply crimped edges of the tongue for my guide, and gave substantial doses of quinine, with tincture ferri chloridi four times daily, and a cold shower bath after light suppers every evening. In one month the woman was restored to vigorous health, and has since had no return of the disease.

CASE IV.—An estimable lady had been afflicted with facial neuralgia for several weeks, although two intelligent physicians had resorted to well directed expedients for its relief. In March, 1861, she came under my care, and finding the tongue well marked with the malarial margins, I placed her upon the use of quinia in combination with ext. belladonna, cyanuret of zinc, and sulphate of morphia, which relieved the pain very promptly, and there has been no return of the disease since that date.

CASE V.—A young man, in the year 1860, contracted virulent

gonorrhœa, which, although the ordinary means had been faithfully administered for ten months, continued nearly unabated in the quantity of the discharge from the urethra; and there were three attacks of orchitis during the protracted time. His residence was in the neighborhood of an extensive switch cane marsh, but it had not at any time occurred to me to suspect malaria as a complication in the case, until the patient was attacked with intermittent fever, and then, as usual, I consulted the tongue, and finding it well marked with wide margins and crimped edges, for the first time I began to see my way more clearly. Quinia was immediately given for the fever, and continued several days after the paroxysms were arrested, for its full influence upon the local disorder, and in ten days all signs of disease had entirely disappeared—no local remedies being ordered in the mean time, as adjuvants in the treatment.

Cases of malarial complication, in almost all classes of disease, could be multiplied indefinitely, if I fancied those already given were not sufficient to convince the most skeptical reader that, whenever that poison is present, quinia is essentially necessary to the cure; and that the tongue, when well marked, is a faithful guide to its detection.

With the malarial margins before me as a delicate miasmometer, I have contended for the prevalence of malaria during our coldest winter seasons; successfully warned numbers of persons who boasted of good health, that they would be sick within a month, and predicted, truthfully, in the earliest part of the year, to my professional associates, that there would be a harvest of fever for them to work upon during the coming summer and autumn seasons. One of these gentlemen, indeed, who is now in my presence, being a little incredulous as to my correctness, asked me if the prospect of the crop was sufficiently flattering to get an advance of money upon from his commission merchant. To this question I replied affirmatively, the result proving my prediction, as to the epidemics of 1866 and 1867, perfectly correct, and affording to our investigation a new variety of malarial fever, which is at this time occupying, almost exclusively, the attention of the profession in Alabama, Mississippi, Arkansas, Texas, and Louisiana.

My confidence in and reliance upon the malarial margins of the tongue as an indication of pathological, as well as therapeutical importance, closely resembles the character of feeling which actuated the defiant Cornelia, when examining before her husband's persecutors, "Call me not the daughter of Scipio, but the wife of Sempronius, and mother of the Gracchi." In like manner, I can truthfully say, I am never so proud of the appellation of discoverer of the malarial tongue, as of the title of defender of its diagnostic accuracy, and interpreter of its remedial significance.

Greensboro, Ala., April 28, 1869.—*Proceedings of the American Medical Association*, 1869.

A New Action of the Spleen: By Prof. GUIDO BACELLI, of Rome, Italy.

IN the *Sperimentale* of Firenze, of last June, the Professor says that the spleen, in the first attacks of malarious fevers, which are very numerous in that region, creates a ravenous appetite.

Through his anatomical, pathologico-anatomical, and physico-pathological experiments, he has found that the spleen, with the adjacent vasa brevia, is to the cells of the pepsinic glands what the vena porta is to the cologenic cells of the hepatic glands. About four or five rectilinear venous vases are connected directly from the spleen to the grand cul de sac of the stomach; those veins have smaller vases intersecting one another, so that the blood may form a kind of equilibrium in this small system.

The deficiency of any valve in this small system would let the blood circulate in a double inverse current, so as to reach at once the gastric, splenic, and medial vascular system.

The gastro-splenic circle shuts up in the hydraulic angle formed by the left coronary vein, and of the spleen, emptying with a downward course in the system of the portal vein.

The veins that from the spleen go to the cul de sac of the stomach are deeply imbedded in it, and the capillaries reach the pepsinic glands.

The pepsinic glands, being connected with the lymphatic apparatus, re-enter the venous system and form a circulation from the capillary splenic to the vasa brevia, from the vasa brevia to the capillary of the stomach, in the region of the pepsinic glands, and from those capillaries again to the trunk of vasa brevia.

By this direct communication of vases, from the stomach to the spleen, and *vice versa*, the spleen, during the first paroxysm of fever, through the increased venous circulation becomes turgid, active, and produces the sense of hunger.—*Med. Record*.

Organic Matter in the Breath.

THE now well-known ammonia process of Wanklyn, Chapman and Smith is doing good service in various ways. In the hands of Dr. Ransome, of Manchester, it has furnished a means of measuring the nitrogenous organic matter existing in the breath in health and disease. From the account of his experiments in this direction, read by Dr. Ransome to the Literary and Philosophical Society of Manchester, a short time ago, we gather the following: The total quantity of organic matter passing out of the lungs in the space of twenty-four hours, the subject being in a state of health, is about 3 grains. In disease the organic matter varies considerably; in health it is tolerably constant in quantity. On the other hand, the free ammonia in the breath is very variable even in healthy subjects. One of the most interesting results given by Dr. Ransome is the fact that a large

quantity of organic nitrogenous matter is thrown off by the lungs in kidney diseases, especially in Bright's disease. A deficiency of organic matter was observed in cases of catarrh, measles, and diphtheria.—*Med. Times and Gazette*.

Polygamy in Its Influence on Population.

AT the last meeting of the Anthropological Society, a paper by Dr. J. Campbell was read "On Polygamy: its influence in determining the sex of our race, and its effects on the growth of population." Minute details of the relative proportions of female to male births in the harems of the king and other important dignitaries of Siam were given. The result seems to be that the proportions of males and females born were, as in the case of monogamist marriages, entirely equal.—*Brit. Med. Jour.*

The Work Done by the Human Heart.

FROM a long article on this subject in a recent number of *Nature*, we condense the following interesting facts:

The total daily work of the human heart is equivalent to 124,208 tons (of 2,240 pounds each) lifted one foot.

The daily labor of a workingman, deduced from long continued observations of various kinds of labor, is found to be equal to 354 tons lifted through one foot, during the ten hours. This is less than three times the work done by a single heart, beating day and night for twenty-four hours; so that three old women sitting beside the fire, alternately spinning and sleeping, do more work by the constant beating of their hearts than can be done in a day by the sturdiest farm laborer.

In a boat race, it is calculated that fifteen foot-pounds of work are performed by each ounce of muscle during each minute of the rowing. No muscular labor that man can undertake is more severe than this; and yet this labor is only three-fourths of that which is exerted day and night during life by each of our hearts.

If the heart should expend its entire force in lifting its own weight vertically, it could raise that weight 19,754 feet in an hour. An active pedestrian can climb from Zermatt to the top of Monte Rosa, 9,000 feet, in nine hours; or can lift his own body at the rate of 1,000 feet an hour, which is only one-twentieth part of the energy of the heart.

When the railway was built from Trieste to Vienna, a prize was offered for the locomotive engine that could lift its own weight through the greatest height in one hour. The "Bavaria," which won the prize, lifted itself through 2,700 feet in an hour. This is the greatest feat yet accomplished on steep grades, and is

considered very remarkable; but it is only one-eighth part of the mechanical force of the heart.

The heart, then, is the most wonderful of machines. Its energy equals one-third of the total daily force of all the muscles of a strong man; it exceeds by one-third the labor of the muscles in a boat race, estimated by equal weights of muscle; and it is twenty times the force of all the muscles used in climbing, and eight times the force of the most powerful engine which the art of man has yet invented.—*Boston Journal of Chemistry*.

QUARTERLY RECORD OF OBSTETRICAL SCIENCE.

Transfusion in the Asphyxia of a New-Born Child.

DR. de Belina gives the details of a successful case of transfusion in a child under these circumstances: A Russian lady, in the eighth month of her pregnancy, was severely shaken by a collision on a railway. The pains of labor immediately supervened, and on removal to an adjoining hotel, Dr. Belina was called in. He found the membranes ruptured, the os fully dilated, and the head presenting. Sharp expulsive pains soon came on, but when the head was born, it was found that the neck was surrounded by two coils of the cord. It was found impossible to release them, and the cord was accordingly divided with scissors, and he endeavored to terminate the labor. Unfortunately, the evolution of the shoulders lasted for some minutes, and the infant became asphyxiated and violet. The cardiac beats were much enfeebled. For ten minutes he fruitlessly applied the ordinary means of restoring suspended animation. The beats of the heart became still feebler, and he determined on transfusion. The difficulty, however, here occurred that no one was willing to be bled for the sake of the child, and he therefore employed the blood flowing from the placenta of the mother, which was spontaneously discharged. The blood was defibrinated with a small piece of whalebone, and thirty grammes (about an ounce) was injected into the umbilical vein in several portions by means of a glass syringe. Immediately after the injection the infant shivered and presented fibrillar contractions of the muscles of the face, at the same time drawing a long breath. The beats of the heart became stronger, and the respirations regular. The next morning it took the breast, and is now a healthy child, nearly a year old.—*Gazette Medicale de Paris*, No. 2, 1870.—*Practitioner*.

A Handy Forceps.—The “Memoirs of the Anthropological Society.”

“A MEDICAL officer, whilst traveling, was called in to see a case of difficult labor, and not having his instruments with him sent for some dancing girls. He selected one with the smallest hands and after a little instruction got her to do what was necessary. Her hands were made to act the part of a pair of forceps. The idea was a happy one, for by it the Doctor was enabled to relieve a poor suffering creature, with comfort to herself, and without risk to the child.” So says Dr. Shortt in an account of the dancing girls of Southern India, which he has contributed to the third volume of the “Memoirs of the Anthropological Society of London,” just published. We may take the opportunity of saying that these memoirs are a mine of curious information for students of history, law, politics, and the science of life.

Possible Duration of Pregnancy.

IN the course of an action for damages for the seduction of a young woman, the question of the possibly protracted duration of gestation was raised. The alleged father had had no access to the mother of the child later than 301 days before its birth, and he naturally disputed his liability. Dr. Tanner deposed that the ordinary period was 270 to 280 days, but might be exceeded by two, three, or even four weeks. He thought there was no inconsistency in the present case (from April 15th to February 9th—that is, 301 days). He had not known any case himself in which the ordinary period had been exceeded by a week, but he had no doubt there were such cases. He had heard of such. Mr. James F. Clark deposed that there were cases on record extending over more than 301 days. Sir James Simpson had recorded a case of 310 days. Dr. Barnes deposed that the ordinary period was 271 days. He had known cases of 280 and of 285 days. He thought it very improbable, but did not like to say it was impossible, for gestation to extend over 301 days. It was so improbable, that he did not believe it. Dr. Tyler Smith said that the longest period of excess he had known was a fortnight. Dr. Reid—a most accurate observer—had recorded forty-three cases of protraction, the longest of which was 300 days. Dr. Smith considered that case as reliable as any doubtful case could be. The verdict was for the plaintiff; damages, £200.—*British Medical Journal*.

Dr. Barnes on Hysteria.

DR. BARNES agrees with Dr. Lee as to the connection of hysteria with the ovaries. The term hysteria was applied when it was thought that the uterus was everything; but within the last

forty years it has become known that the ovary is the source of the physiological changes in the female. Doubtless the ovary has the power, of evoking nervous phenomena, since the first attacks of hysteria come on with menstruation and in many cases women are hysterical at each menstrual epoch. Disturbed ovarian function attends many cases of uterine disease, and if the physiological flow of blood to the organ cannot be relieved by the uterus, nervous symptoms are apt to ensue. Treatment directed merely to the nervous symptoms, therefore, sometimes will fail, and the uterine disorder should be attended to.—*Medical Press and Circular*.

OPHTHALMIC, AURAL AND NASAL SURGERY.

On the Danger Attending the use of the Nasal Douche: By CHARLES I. PARDEE, M. D., Clinical Assistant in the Manhattan Eye and Ear Hospital; Member of the New York Ophthalmological Society; Late Surgeon for the Eye and Ear Class in the Northern Dispensary, New York.

THE treatment of naso-pharyngeal catarrh by means of the nasal douche devised by Professor Weber, of Halle, known in this country, although erroneously, as Thudichum's contrivance, has been quite generally adopted by the profession.

It acts virtually by the temporary conversion of the nose of the patient into the long end of a syphon, which is made complete by the closure of the upper pharyngeal space, the free border of the soft palate being made to hug the posterior wall of the pharynx, as he widely opens his jaws and takes special pains to breathe through the mouth. While in this position the nozzle of the apparatus is introduced into one nostril, the reservoir being placed somewhat higher than the patient's head, and the fluid finds its way into the upper pharyngeal space, and out by the opposite side of the septum nasi.

Theoretically, this operation thoroughly cleanses the passages; it offers equally good advantages for introducing remedial agents into them, and it is so easily managed that the patients themselves can assume control of the instrument, and cleanse and medicate their own nasal passages.

Practically, none of these advantages can be unqualifiedly admitted, unless, indeed, the last-named be one; and experience teaches that there are dangers attendant upon its use that make it a matter for very grave consideration whether the instrument should not be classed among the dangerous ones, and its use prohibited. This will presently be shown.

The floor of a normal nasal passage is perfectly open, as also is

that part which lies between the septum nasi and inferior turbinated bones. A large catheter can be readily pushed along the floor of the passage, while the smallest cannot be passed between the superior turbinated bones and septum, and into the frontal sinuses, without violence, so close are the parts approximated. The space exterior to the turbinated bones and between them is equally narrow.

But in naso-pharyngeal catarrh, the mucous membrane covering the septum and turbinated bones is thickened, and in consequence the opposite surfaces are pressed together.

If by means of our instrument a gentle stream is passed into the nostril, the open space at the floor of the passage will be traversed, but that above, exterior to and between the turbinated bones, will be untouched by the fluid. If we increase the pressure by elevating the reservoir, the mechanical irritation will cause a determination of blood to the part that will temporarily increase the thickening of the mucous membrane, and render the above-named spaces only the less pervious to the passage of the fluid. In either case the object of thoroughly cleansing or of introducing remedial agents into the passages will be partially defeated. It is true, that a little of the fluid may insinuate itself between the turbinated bones, or into the upper nasal space, but so little as to be practically of no use, and if much pressure is used, it is more than likely to cause a severe headache. It is but the floor of the nasal passage that the operation can thoroughly reach.

It is not, however, on the ground of efficiency that the method should be more particularly criticised.

In a portion of the tract traversed by the fluid in this operation, the upper pharyngeal spaces, are to be found the mouths of the *Eustachian tubes*, which, by their position, preclude the possibility of practising it with certain safety to the patient, inasmuch as moderate pressure, even, may force the fluid through those tubes into the *middle ear*, while with greater pressure the result is, of course, more likely to follow.

Herein lies the danger; for this system of forcing fluid into the middle ear has been followed by irritation, and all the painful results consequent upon acute inflammation of those parts, as the following cases may serve to illustrate:

The first, which came under the observation of the writer, at the Manhattan Eye and Ear Hospital in this city, is that of J. R., aged 36, a plumber by occupation, and a man of more than average intelligence, who presented himself at the hospital in the following condition:—With the right ear the watch was heard when pressed on the auricle, and the voice, when the tone of it was considerably elevated, and the speaker's mouth approached to within six inches of his ear. It was, however, impossible to obtain any evidence of hearing power in the left ear; it refused to respond to any test. The pharynx was relaxed, and there was considerable secretion from the upper pharyngeal space. The

usual passages were thickened, although but little. There was a perforation of each membrana tympani from suppurative inflammation of the cavity of the tympanum. In the left external auditory canal were large granulations springing up from the bottom of that part, and from the margin of the membrana tympani. There was excessive secretion of pus. In the little groove posterior to the left auricle was a fluctuating swelling, which, on being opened, discharged a large quantity of pus, disclosing necrosed bone, and an opening into the cavity of the tympanum. The condition of the patient was truly deplorable, and necessitated careful and protracted treatment, with but little prospect of great benefit to the left ear, while the danger in which his life was placed by the disease of the bones made the case the more serious and lamentable. From the intelligent and straightforward statement of the patient it was impossible to deduce but one conclusion—that while using the nasal douche, which had been prescribed for the cure of a nasal catarrh, while his ears were sound, fluid had passed into the cavity of the tympanum, and excited therein a purulent inflammation. This conclusion verifies that of Dr. D. B. St. John Roosa, who saw him soon after the accident.

Mr. M—, one of the students in the University Medical College, has kindly related his own experience with the instrument, as follows:—

“In the latter part of November, 1869, I was one day using the nasal douche with a solution of alum, and neglecting to open my mouth as widely as usual, a drop trickled down my throat. As I involuntarily swallowed, the mouths of the Eustachian tubes of course opened, and I was sensible that the fluid made its way into the tympanic cavity. Quite severe pain followed, which lasted several hours, and left me with impaired hearing. In other words, the accident caused a catarrhal inflammation of the tympanum.”

This gentleman evidently believes that the involuntary act of swallowing was the primary cause of the accident, as that movement opened the mouths of the Eustachian tubes. Undoubtedly it tends to insure such a result; and every one who has used the contrivance is aware that fluid sometimes escapes from the upper pharyngeal space, and almost necessitates the act of swallowing.

The writer, furthermore, is indebted to his friend, Dr. Roosa, for the succeeding notes of an extremely interesting case that occurred in his private practice—a report *in extenso* of the case having been published in the “*Archives of Ophthalmology and Otology*,” Vol. I., No. 1. That journal being in the hands of specialists more particularly, it seems quite proper to reproduce it, as the case is of great value in this connection.

“On the 12th of December, 1868, I was consulted by a clergyman of 49 years of age, who for the past two months had been

in the daily habit of using Weber's nasal douche, for the purpose of cleansing the nostrils, and of introducing remedial agents into them. He had once before tried this means of treatment, but it had caused so much unpleasant feeling in the ears, that he was obliged to desist from employing it. For about two weeks these unpleasant sensations, on using the douche, have been again experienced. The patient complains of being deaf, and of having a full sensation in both ears, almost amounting to pain. The membrana tympani of each side is found to be reddened. An ordinary ticking watch, heard by a person of normal hearing power about six feet, is heard only when placed in contact with the auricle of each side. In a few days the membrana tympani assumed a normal appearance, and the hearing was restored by means of appropriate treatment.

"On Saturday, February 6th, he again used the nasal douche, and again experienced a decidedly unpleasant sensation in his ears, which, however, did not amount to pain. On Sunday night, at about 11 o'clock, he was awakened by a severe pain in the mastoid region of the right ear, which kept him from sleep. I saw him Monday morning, at about 8 o'clock, and noted the following symptoms: The countenance was anxious and flushed, skin hot, pulse about ninety-six, right mastoid region red and sensitive, right membrana tympani reddened; watch only heard when pressed upon the auricle. The patient was asked as to the condition of the left ear, but he said there was no trouble there.

"February 8th.—Last night the patient was attacked by a severe pain and swelling of the left foot, and at about 7½ A. M. he had a severe chill, lasting about fifteen minutes; not followed by sweating. At about this time a discharge appeared from the left ear. There has been no pain experienced in this part. He has not slept well, and his general appearance is bad; countenance anxious, breathing labored, pulse about ninety-six. The left ankle and dorsal region of foot are red, greatly swollen and tender. *Left* membrana tympani ulcerated, and discharging freely.

"Until February 22d his pulse was never over 100, usually about 96; the skin had a saffron hue, and patient lay in a doze, except when the pain from his foot kept him awake. At that date two openings were made in his foot, one near the internal and one near the external malleolus. Pus was evacuated.

"Several openings were made in the foot from time to time; but the patient slowly improved from this time until March 16th, when he was able to sit up. The membrana tympani healed, and the hearing distance became about one foot on the right side, and four to six inches on the left. He quite recovered."

In the remarks appended to this case, Dr. Roosa says:—"The exciting cause of the aural inflammation was, I think, the use of the nasal douche. I am the more inclined to believe this from the fact that on two previous occasions I have seen the employ-

ment of the douche cause considerable trouble in the ear. In one instance the membrane of the *drum was ruptured* by its use."

The evidence that the disease in this case was caused by the douche is greatly strengthened by the fact, that on *two* occasions inflammation had followed its use, and had been preceded by similar premonitory symptoms.

At the annual meeting of the American Otological Society, held at Newport, R. I., on the 20th of July, 1869, Dr. H. Knapp, of this city, reported a case of purulent otitis media, with perforation of the membrana tympani, which was caused by the employment of the nasal douche.

Referring to Mr. Roosa's case, he remarked that Dr. S. Moos, of Heidelberg, in a note to the German translation of Dr. Roosa's paper, confirms the views of the latter author, by stating that he saw the fluid injected into the nostrils by Weber's douche flow out of the ears in two cases of perforation of the membrana tympani. In one instance Moos saw also a catarrhal inflammation of the middle ear arising from the employment of the douche."

From the extensive use of the instrument there comes an increasing number of cases similar in character to those just narrated. That fluid, introduced into the nasal passages by means of it, finds its way into the middle ear through the Eustachian tubes, is a fact that cannot be doubted; and the consequences have been so deplorable that it seems as if the proposition to abandon its use should be worthy of the most serious consideration, more especially as it is true that other means of cleansing and of introducing remedial agents into the nasal passages are equally efficacious. A posterior nares syringe will accomplish all that can be expected from the nasal douche, *i. e.*, cleanse the upper pharyngeal space and the floor of the nasal passages; and, moreover, its use is attended with no possible danger. An instrument that shall be simple enough to enable patients to use it at home, and with safety, undoubtedly is a desideratum. The nasal douche is not such an one.

A nebulizer affords an excellent means by which to dislodge the secretion from the upper nasal space, and from the upper turbinated bones, and the posterior nares syringe may then be used to wash it out. Through the agency of the same instruments remedial agents can also be introduced.—*Medical Record.*

MATERIA MEDICA AND THERAPEUTICS.

Electricity as a Therapeutic Agent.

Dr. RUSSELL REYNOLDS sums up the "vital" effects of electricity as follows:—When the activity of a nerve is too great, as shown by tremor, pain, etc., we may relieve it by the continuous current. An interrupted current is best if we desire to put a muscle into action which is morbidly inactive; when there is spasm, the continuous current is beneficial. The continuous current will warm a cold limb. In certain forms of palsy and wasting, the nutrition of the muscles can be greatly improved by galvanisation and faradisation. Facial palsy, lead palsy, and essential paralysis are most speedily improved by the battery current, interrupted slowly. In wasting of muscles from long continued palsy from cerebral disease, faradisation, again, is more useful than galvanisation.—*Medical Press and Circular.*

The Treatment of Psoriasis.

Dr. Passavant, of Frankfort on the Maine, in a letter to Prof. Hebra, recommends, as a specific remedy for psoriasis, the employment of an exclusively animal diet. Dr. Passavant's first experiment was made upon himself. He has suffered for twenty-five years from this disease, which ultimately affected the entire surface of the body, notwithstanding the trial of all the ordinary remedies. When the affection was at its height, both in point of extent and severity, he experimented on the effects of an exclusively animal diet; immediate improvement was observed, and after a few weeks he was perfectly well. Dr. Passavant states he has seen another case of psoriasis treated in a similar manner, in which the scabs entirely disappeared in the course of six weeks. On the patient's returning to an ordinary diet a relapse occurred, which was again overcome by a return to an exclusively animal diet. Dr. Caspari, in some observations on this mode of cure, observes that he has had no opportunity of trying it, but that he is himself an example of the curative effect of a precisely opposite plan of treatment. It appears that, like Dr. Passavant, he has been for full thirty years subject to psoriasis, affecting the whole of the body, together with the upper and lower extremities. He also had tried all kinds of remedial means without effect; but some years ago, in consequence of a chronic catarrhal affection of the stomach, he was unable for many months to take anything for breakfast beyond a cup of milk with a little bread, soup and rice for dinner, and milk porridge for supper. His practice being considerable, this diet was insufficient to sustain his physical powers, and he gradually lost weight, but coincidentally his psoriasis vanished; it was starved out.—*Deutsche Klinik*, Dec. 18, 1869.—*Practitioner.*

Treatment of Malignant Pustule.

DR. CASPAR, of Stassfurth, asserts, in the *Deutsche Klinik*, that he has treated several hundred cases of malignant pustule successfully by strong solution of ammonia; and that all the patients recovered except one—a pregnant woman, whose stomach rejected everything. The dose for children was one, two, or three drops: and for adults, four drops, given every hour, day and night, in sweetened barley-water. The treatment, he says, must be continued until the inflammation ceases to spread round the pustule. The local application of solution of chlorine is of little or no value.—*Medical Press and Circular*.

Chloroform in the Treatment of Biliary Calculi: By JOHN BARCLAY, M. D., Physician to the Infirmary, Leicester.

SEEING some reference in a contemporary periodical, to the proposed use of chloral as a solvent of biliary calculi, I crave space to state that I have met with very great success from the internal administration of chloroform in that disease.

I first used it in 1861, in the case of a clergyman, aged 58. He had suffered for twenty-three years from gall-stones; the peculiar pain, jaundice, with subsequent discharge, by stool, of the calculi, coming on so suddenly and without warning, as seriously and frequently to interfere with his duties. Just then, writing on alcohol, I had been studying the experiments of Lallemand and others, on the existence of alcohol unchanged in the blood. Knowing that ethers are solvents of cholesterine, I ventured, on his third attack in that year, to prescribe chloroform in doses of two or three drops, three or four times a day, on the chance of its reaching the calculi through the blood. To his surprise, and my gratification, pain, tenderness, distension and jaundice disappeared together, and in the eight years since elapsed, he has never had another attack. He keeps a bottle of "chloric ether" by him, for occasional use. I have found it to give invariable and permanent relief in many instances since.

The theory of thus dissolving the calculi *in situ*, followed by the disappearance of the symptoms, leads to a deduction that may be legitimate, that relief was obtained by their being so dissolved.—*British Medical Journal*.

Excipient for Pills.

MR. S. B. Turney recommends, as a good general excipient for pills, two drachms of powdered tragacanth and six drachms by measure of glycerine. These are to be mixed in a mortar, and though at first semi-fluid, soon become a firm, tenacious mass, which keeps well, and but a small quantity is required, even with such substances as quinine or iodide of potassium. Pills made with it do not become hard.—*Pharmaceutical Journal*, Jan. 1870.—*Practitioner*.

The Poisonous Dose of Chloral.

WE have received the following important note from Dr. J. R. Reynolds: "I was called to see a lady of middle age, who had, for the relief of neuralgia, taken hydrate of chloral.

On the third day before my seeing her she had taken gr. 10 and gr. 15, and had found much relief. On the day before she had taken a larger dose with good effect.

On the day of my being summoned the dose had been increased to gr. 45 or gr. 50, and there had followed complete relief of pain; but in the course of an hour some 'faintness' was felt, and when I saw the patient this had increased to an alarming degree. Two hours had passed since the last dose was taken, and I found the patient with cold extremities; an excessively rapid, weak, irregular, and intermittent pulse; jactitation of limbs, an intolerable sense of sinking, and oppression at the pit of the stomach; gasping breathing, and confusion of thought.

I observed at this time, and for three-quarters of an hour subsequently, that the radial, temporal, and tibial pulses were all of the character I now describe—frequent, weak, irregular in both force and rhythm, and frequently intermittent—but that the heart was acting regularly, although with increased frequency and diminished force.

Stimulants, with white of egg, were administered freely, warmth was applied to the extremities, sinapisms were put on the cardiac region, fresh air was introduced plentifully into the room, and at the end of an hour from my first seeing the patient the pulse had become much steadier, though still very frequent and very weak. The syncopal feeling had diminished, the feet were warm, and there was a tendency to sleep.

This state of comparative freedom from urgently dangerous symptoms lasted for longer than an hour, when—without any apparent cause—they returned with increased severity. The patient now seemed in the gravest danger. The superficial pulses were almost imperceptible, and when they could be detected presented the character I have described. Still the heart was regular in its beat, although feeble, and intensely rapid in its pulsations. The mind wandered much; there was utter prostration of muscular strength, the limbs being extended, the head low, and the aspect was at times that of impending dissolution. There was a great dyspnoea, a sense of suffocating oppression at the base of the chest (in front), and urgent thirst.

The treatment previously adopted was again pushed vigorously, and at the end of an hour and a half relief was obtained, and sleep followed. The next morning I found the pulse quite regular, and of its normal frequency.

I have written this hastily, but pray put it in your own way, and make any or no use of it as you think best.

The points of interest that occurred to me were: 1st, the

dose; 2d, the time between its administration and the appearance of symptoms; 3d, the recurrence of symptoms after their temporary cessation; 4th, the curious effect on the vessels, which was obviously not due to effect on heart; 5th, the relief by food and stimulant. I found that the albumen (of two eggs) was that which was followed by a calming effect, and a tendency to sleep."—*Practitioner*.

A New Liquor Ergotæ.

MR. Edward Long, of Dublin, has devised a new preparation of ergot, which appears to have some advantages over any previously existing form of the drug. He started from the principle that water is the best extractor of the virtues of ergot yet found, and conjectured that *glycerine* would probably take up the same soluble ingredient. He digested ergot, freshly powdered, in *glycerine* for ten days, frequently shaking it; on then straining, the liquid was found of a deep purplish color, nearly as thick as treacle; the marc was quite soft and pulpy. This marc was digested in spirit for ten days more, pressed off and filtered, and the resulting tincture distilled off till it became syrupy, and then added to the previous solution.

"The "fluid extract" thus formed equals in volume the quantity of *glycerine* originally employed, and each drachm represents half a drachm of powdered ergot, and may be considered a dose, for midwifery purposes. It is obvious that if the inventor's expectations of its efficiency be realized, there will be great conveniences in the employment of this new preparation. The practitioner will be able to carry with him to every midwifery case a little bottle holding a few drachms (and marked off into drachm doses), which will be ready for immediate use, whereas at present there is no way of getting certain effects except by the rough and disagreeable process of making an infusion of ergot on the spot. Moreover the latter preparation is extremely nasty; but Mr. Long's extract is sweet. He supposes that it will keep perfectly well. The profession are invited to make trials of this new preparation; and we shall be very happy to record any experience which any of our readers may have met with in its employment."—*Practitioner*.

Aqua Chlorini in Trichinitis.

DURING the late epidemic of trichinitis in Hildesheim, Germany, one of the physicians, taking the symptoms of his three first patients for cholera, prescribed concentrated *Aq. chlorinii*, and noticed rapid subsidence of the colicky pains. He continued this remedy even after observing the mistake, and succeeded with it fully in fourteen cases, five of which were of the highest grade, by giving at first, every third hour, two teaspoonfuls, and when the catarrh of the stomach had gradually subsided, one teaspoonful, and a draught of water to be taken five or ten minutes after the dose.—*Medical and Surgical Reporter*.

MEDICAL NEWS AND MISCELLANEOUS.

Medical Registration.

EARL DE GREY, on presenting a bill for the amendment of the law as to the registration of the medical profession, remarked that at present no less than nineteen bodies existed in the three kingdoms which were entitled to confer medical licenses, authorizing the placing of their names in the medical register. There were, moreover, considerable differences in the terms on which they admitted licentiates, and in their examinations, and some great qualifications for surgery or medicine only, while the insertion of any name in the register enabled such a person to practise in both branches. It was proposed, therefore, to substitute one examining body in each of the three kingdoms, and to insure a uniform mode of examination. The present licensing bodies, which were entitled to fair consideration on account of the services they had rendered to the profession, were to propose to the General Medical Council a scheme for the constitution of this one body; and if within a certain time they did not do so, the Council would propose a scheme, which in either case would be submitted to the Privy Council for confirmation. The Council would also have authority to frame regulations for the conduct of the examinations and as to the course of study to be previously pursued, which would also require the confirmation of the Privy Council, thus securing the responsibility of a department of the Government. He hoped this measure would not be unacceptable to the existing corporations or to the profession at large; and he proposed to fix the second reading for the 2d of May, so as to give ample time for the consideration of it. The Bill was thereupon read a first time.—*British Medical Journal*.

The Paris Observatory.

LE VERRIER is no longer Director of the Paris Observatory. For some years past, it has been pretty generally understood that the eminent astronomer was very dictatorial and despotic in his treatment of his subordinates; and of late he appears to have become too much of a tyrant to be tolerated even in France. The Minister of Public Instruction finally had to decide between removing *M. le Directeur* and losing all the rest of the staff of the Observatory, and he has concluded to "accept the resignation" of the former. As the editor of *Nature* remarks, "it is to be hoped that M. Le Verrier may be able yet to do service to astronomy in some other capacity, some position where his great talents alone will be called into play. His is a name that will never die; let us hope that it is but momentarily eclipsed."—*Boston Journal of Chemistry*.

It is reported that all communication with Dr. Livingstone has been arrested by the prevalence of cholera along the east coast of Africa. The supplies and porters sent by order of the Earl of Clarendon to Dr. Livingstone have been stopped by the epidemic which is said by Dr. Kirk to have killed 10,000 persons at Zanzibar, and 30,000 in the whole island.—*Medical Times and Gazette*.

Prof. J. D. Rankin, of the Galveston Medical College (*Galveston Medical Journal*), objects to the classification of malarious fevers into "*Intermittent, Remittent, and Congestive*," on the ground that these titles are not sufficiently expressive of the morbid conditions; he therefore proposes the simpler and more intelligible names: "*Passive Hemato-Neuro-Endangitis Gravis! Hemato-Neuro-Endangitis Gravior!! and Hamato-Neuro-Endangitis Gravisimos!!!*" It is the characteristic of true genius to simplify all it touches.—*Medical Gazette*.—*N. Y. Med. Jour.*

The Medical Society of the District of Columbia has made an appeal to Congress, in reply to the resolution which was introduced in the Senate by the champion of the colored men, Mr. Sumner, with the view of repealing the charter of the Society. This reply was prepared by a committee, consisting of Drs. Lovejoy, Liebermann, and Toner, in connection with the President, Dr. W. P. Johnston. The charter of the Society secures to all medical practitioners, without distinction, rights dependent only upon certain moral and intellectual qualifications; and the Society, as we have before stated, did not in any way desire or attempt to interfere with or abrogate these rights in the case of Drs. Purvis and Augusta, the colored physicians. The same instrument leaves the question of membership one of optional and social association, and this right the Society exercised, and declined to accept Drs. Purvis and Augusta as their companions in their social meetings, as they had an unquestioned right to do.—*N. Y. Med. Jour.*

According to the Medical Students' Register, there were, this year, 530 students in England, 317 in Scotland, and 317 in Ireland; together, 1,164 freshmen during the year.—*Medical Press and Circular*.

EDITORIAL.

Proceedings of the American Medical Association.

Of course, our readers expect some information with regard to the proceedings at the late meeting of the American Medical Association. We think we can occupy our pages more profitably than by copying the whole detail of transactions, and will, therefore, limit ourselves to an abstract of the most important measures of legislation and scientific work; with explanatory editorial remarks.

The Association was scarcely organized, before sundry troublesome questions of ethics were introduced. By way of relieving the general body from this source of vexation, to as great an extent as possible, Dr. N. S. Davis moved that all such questions be referred directly to the Committee on Ethics. The adoption of this resolution opened a novel complication in the fact that charges of violation of ethics were pending against one of the Committee on Ethics, and the Chairman of the same, Dr. L. A. Sayre, of New York. This, therefore, necessitated the appointment of a new Committee.

The President appointed as the Committee on Ethics, Drs. Alfred Stille, of Pennsylvania, chairman; J. M. Keller, of Kentucky; N. S. Davis, of Illinois; H. F. Askew, of Delaware; and J. J. Woodward, of U. S. Army.

After the reading of the President's address, the following Committees reported:

On Cultivation of the Cinchona Tree, Dr. Lemuel J. Deal, Pennsylvania, Chairman, presented a report which was referred to the Section on Practice of Medicine and Obstetrics.

On the Doctrine of Force, Physical and Vital, Dr. John Waters, Missouri, Chairman, presented a report, which was referred to the Section on Physiology.

On the Relative Advantages of Syme's and Pirogoff's mode of Amputating at the Ankle, Dr. G. A. Otis, U. S. A., Chairman, presented a report, which was referred to the Section on Surgery and Anatomy.

On a National Medical School, Dr. F. G. Smith, Pennsylvania, Chairman, reported progress, and the Committee was continued.

Reports on *Climatology and Epidemics* were received from Drs.

H. I. Bowditch, Massachusetts; E. K. Hunt, Connecticut; D. F. Condie, Pennsylvania; R. C. Hamil, Illinois, and referred to the Section on Climatology and Epidemics.

Reports of progress were received from Drs. L. B. Bush, of Delaware; W. F. Thoms, of New York; E. A. Hildreth, of West Virginia; and R. F. Michel, of Alabama.

On Veterinary Colleges, Dr. Thomas Antisell, of District of Columbia, Chairman, presented a report, which was referred, after a partial reading, to the Committee on publication.

Voluntary communications were presented.

On Extraction of a Tumor from the Knee-joint, by Dr. A. B. Stewart, of Minnesota. Referred to Section on Surgery and Anatomy.

On Intra-uterine Injections, by Dr. John Byrne, of New York. Referred to Section on Practice of Medicine and Obstetrics.

On the Best Method for Curing the Insane, by Dr. C. A. Lee, of New York. Referred to Section on Psychology.

On the Cellular Structure of the Red Blood Corpuscles, by Dr. J. G. Richardson, of Philadelphia. Referred to Section on Physiology.

On Improved Medicinal Treatment, by Dr. J. H. Griscom, of New York. Referred to Section on Practice of Medicine and Obstetrics.

On Median Lithotomy, by Dr. James L. Little, of New York.

On a New Operation for imperforate Anus, by Dr. T. M. Healey, of Maryland.

On a New Method of Effecting Reductions of Dislocations at the Shoulder-joint, by Dr. S. Logan, of Louisiana.

On a Case of Congenital Occlusion of the Rima Glottidis, by Dr. L. Elsberg, of New York.

On Tubercular Degeneration of the Kidney, by Dr. C. H. Ohr, of Maryland.

On Carbolic Acid in Furulent Conjunctivitis, by Dr. J. G. Rogers, of Indiana.

All referred to the Section on Surgery and Anatomy.

On motion, a recess of five minutes was taken to allow the delegations from each State to choose their representatives for the Committee on Nominations.

On reassembling the Permanent Secretary announced the following as the Committee on Nominations:—

Maine, G. S. Palmer; New Hampshire, John W. Parsons; Rhode Island, Otis Bullock; Vermont, J. L. Sweet; Connecticut, C. M. Carleton; New York, Charles A. Lee; New Jersey, Samuel Lilly; Pennsylvania, John L. Atlee; Delaware, H. F. Askew; District of Columbia, S. C. Busey; Virginia, R. W. Haxall; West Virginia, H. W. Brock; Maryland, J. J. Cockerell; Iowa, W. H. Baxter; Indiana, John Rea; Illinois, H. Nance; Kentucky, J. M. Keller; Tennessee, J. E. Manlove; Texas, G. C. McGregor; North Carolina, F. J. Haywood, Jr.; South Carolina, A. N. Talley; Louisiana, S. M. Bemiss; Georgia, C. B. Notting-

ham ; Oregon, Horace Carpenter ; Ohio, J. A. Murphy ; Michigan, E. W. Jenks ; Alabama, R. F. Michel ; Missouri, E. P. Lankford ; Minnesota, A. P. Stewart ; Mississippi, J. Steinreid ; U. S. Army, B. F. Craig ; U. S. Navy, A. A. Henderson ; Nebraska, James H. Peabody.

SECOND DAY.

On motion of Dr. S. D. Gross, of Pennsylvania, it was

Resolved, That on the third day of each annual session, a social reunion shall be held, and that this year it should be held at the Arlington House, on Thursday, at 8 P. M., each participant to pay his quota of the expense.

By request, the President appointed a committee of five to make the necessary arrangements.

Committee, Drs. P. S. Wales, U. S. N. ; D. W. Yandell, of Kentucky ; L. A. Sayre, of New York ; J. B. Johnson, of Mo. ; and J. M. Toner, of District of Columbia.

This resolution was afterwards reconsidered and laid on the table. It is not unlikely that the "newly enfranchised" was the Banquo's Ghost that frightened the intended banqueters.

Dr. A. Stille, Pennsylvania, Chairman of the Committee on Ethics, made the following partial report from that Committee:—

Whereas, The charge of tolerating in the Massachusetts Medical Society, men acknowledged to have become Homœopaths and Eclectics, is fully proved, and is plainly in violation of the Code of Ethics :

But inasmuch as it also appears that the parties making the charge here, being themselves members of the same Society, have not previously made, or caused to be made, any specific charges against such irregular practitioners in the proper form, before the Massachusetts Medical Society or its counsellors, it is the opinion of this Committee that such steps should have been taken and their results obtained before appealing to this Association ; and it is therefore recommended that the Committee of Registration should register all regularly accredited delegates from that Society to the present meeting. This Committee further recommends that unless said Society takes the necessary steps to purge itself of irregular practitioners, it ought not to be entitled to future representation in this Association.

ALFRED STILLE,
Chairman of Committee on Ethics.

On motion of Dr. T. Clay Maddox, of Maryland, the report was adopted and the delegates were admitted.

From the above resolution it will be seen that our Puritan brethren are still so much occupied in regulating other people's affairs and in civilizing outside barbarians, that they have no time to set their own houses in order.

Dr. H. R. Storer, of Massachusetts, moved that the Committee be instructed to stereotype all future editions of the *Transactions*.

Dr. S. D. Gross, of Pennsylvania, offered the following as an amendment, which was accepted by Dr. Storer :

Resolved, That the *Transactions* be published periodically, in a journal to be called the *American Medical Association Journal*, issued monthly under the supervision of a competent editor, along with such matters as may be deemed to be of general interest to the Association and the profession at large.

The resolution was adopted.

After some discussion, on motion of Dr. A. B. Stuart, of Minnesota, the vote was reconsidered.

On motion of Dr. Jas. P. White, of New York, the resolution from the Committee of Publication was adopted.

On motion of Dr. White the resolution of Dr. Gross was referred to a committee of five.

Committee, Dr. Jas. P. White, of New York ; F. G. Smith, of Pennsylvania ; Isaac Jump, of Delaware ; W. H. Mussey, of Ohio ; and W. L. Atlee, of Pennsylvania.

The Permanent Secretary read the following :—

ST. LOUIS MEDICAL SOCIETY,
ST. LOUIS, MO., April 16, 1870.

“ *To the American Medical Association :*

“ At the regular meeting of the St. Louis Medical Society, held on April 9, 1870,

“ Dr. Paul F. Eve offered the following resolution :

“ Believing that it is wrong, and as unethical for our medical colleges to underbid each other pecuniarily, as for practitioners to do so, this Society heartily approves of the proposition made at the last meeting of the American Medical Association, that a definite sum for a course of lectures be fixed, to which all the schools represented in it shall comply ; and moreover, that this expression of our body be signed by our officers and sent to the Permanent Secretary of the National Medical Association, and a copy furnished the President of the Teachers' Convention to be held in Washington city during the week preceding the first Tuesday of May next.

“ The same was carried *nem. con.*

JOHN T. HODGEN, *President.*
E. A. CLARK, *Cor. Secretary.*
H. Z. GILL, *Recording Secretary.*”

The motion to fill the blank as above was adopted.

After further discussion by Drs. D. W. Yandell, of Kentucky, A. B. Jones, of Ohio, and J. B. Johnson, of Missouri,

On motion of Dr. R. Crawford, of Pennsylvania, the whole subject was laid upon the table.

Prof. Eve, in all his Transylvanian integrity and ingenuousness, seems to have lost sight of the blighting influence of Washington air upon all purely moral motives or elevating tendencies. Otherwise he would never have trusted a resolution framed as his was, and backed by no better argument than being right and proper, to the "gathering" at that city. He should have remembered that at this modern Sodom no question is so paramount as that of the highwayman—"expediency." Unprincipled and gross corruption is so universal, that even the air one breathes may be looked upon as tainted with moral leprosy. There are probably few places on earth where magic mirrors which, like Zeyn's, would tarnish at the reflection of vice and impurity, should be more unpopular than at Washington City.

On motion of Dr. J. L. Sullivan, of Massachusetts, it was

Resolved, That the American Medical Association has the power to control the subject of medical education in the United States, and the power to exercise that control in any manner upon which it may become agreed.

On motion of Dr. D. A. O'Donnell, of Maryland, it was unanimously

Resolved, That a committee of three be appointed whose duty it shall be to represent the evil of criminal abortion in its proper light, and to take into consideration the best course to be pursued by the profession in arresting its progress, and in forcing from our ranks all who now, or may hereafter, pursue this iniquitous course. And that the said Committee shall report at the next annual meeting of this Association.

Resolved, That the members of this Association, in expressing their unqualified denunciation of such persons, are acting in accordance with the high trust reposed in them, and paying a just tribute to their individual characters, and to a noble and honorable profession.

Committee—Drs. D. A. O'Donnell, of Maryland; Washington L. Atlee, of Pennsylvania, and Henry F. Askew, of Delaware.

The Committee on Nominations presented the following partial report, which was, on motion, adopted:

President—Dr. Alfred Stille, of Pennsylvania.

Vice-Presidents—1. Dr. J. S. Wetherly, of Alabama; 2. Dr. Henry Gibbons, of California; 3. Dr. T. J. Heard, of Texas; 4. Dr. Samuel Willey, of Minnesota.

Assistant Secretary—Dr. Joseph C. Tucker, of California.

Treasurer—Dr. Caspar Wister, of Pennsylvania.

Librarian—Dr. F. A. Ashford, of District of Columbia.

Committee of Arrangements—Chairman, Drs. A. N. Sawyer; Brown, U. S. N.; J. C. Tucker, Shurtleff, Holman, Murray (U.

S. A.), and Simmons, of California; Horace Carpenter, of Oregon; Bronson, of Nevada.

Committee on Publication—Drs. F. G. Smith, of Pennsylvania, Chairman; Wm. B. Atkinson, of Pennsylvania; J. C. Tucker, of California; F. A. Ashford, of District of Columbia; Caspar Wister, of Pennsylvania; H. F. Askew, of Delaware; James Aitkens Meigs, of Pennsylvania.

Committee on Prize Essays—Drs. T. M. Logan, of California, Chairman; H. Gibbons, H. H. Toland, Beverly Cole, Cooper Lane, of California.

Place of meeting, San Francisco, California.

Time of meeting, 1st Tuesday in May, 1871, at 11 A. M.

Dr. J. F. Hibberd, of Indiana, in order to test the sense of the meeting, moved to strike out San Francisco and insert Philadelphia.

Dr. O. F. Renick, of Missouri, moved to amend by inserting St. Louis, which was negatived.

The vote then recurring on the first amendment, that was also negatived, and, on motion, it was unanimously agreed that the next place of meeting should be San Francisco.

Dr. T. J. Heard, of Texas, offered the following, which was, on motion of Dr. John Waters, of Missouri, ordered to be spread upon the minutes, to be acted upon at the next annual meeting:—

It is the sense of this Association that the Government of the United States should, at the earliest time practicable, establish a National School of Medicine, in which legitimate medicine and all the collateral branches should be taught and illustrated to the utmost degree.

It is the opinion of this Association that the National Government should grant a charter for such a school, and should make such appropriations of money as may be found necessary for the instituting and carrying into successful operation said school, and of maintaining the same

It is the belief of this Association that such a school as above contemplated will, in this age of progress, exercise an influence for the good of the whole nation, which the most sanguine cannot realize in prospect.

A National School of Medicine, not for a section, but for the good of the whole nation, in which preferred graduates in medicine may be perfected in any branch of our profession in which they may find themselves best qualified by nature or education to act, will do *more* towards nationalizing our people, and successfully superseding the irregularities and various abuses in medicine to which the people are daily subjected, *than ANY influence* which this government could bring to bear; not by restrictive laws, but by swallowing up the darkness and ignorance into light.

This Association being a representative body, which has been in a great measure, since its institution, a reflex of medical opin-

ion throughout the Union, it is believed that, should the Government grant a charter, and appropriate funds for a National School of Medicine, in that event this Association should have entire control of said school.

Should a school of medicine be established as above contemplated, there can be no doubt—should the medical students admitted and educated therein have a just regard as respects numbers, to the population of the several States of this Union—that said institution would accomplish more towards the diffusion and the utilizing of medical knowledge than any institution in this country.

It is believed that students admitted to this school should be *men* who have graduated at schools of medicine in good standing with this Association, and that the State Medical Societies or Associations should alone have the right to send medical students to said national school; that *they* should judge of the qualifications of applicants, and that *their* action should be *final*.

This Association earnestly desires that initiative steps should be taken at the earliest time practicable, for the establishment of said school, and therefore they deem it advisable that the President of this Association should at *this* meeting appoint a committee consisting of one man of acknowledged ability and zeal for medical advancement, from each State; and that said committee be requested to use whatever influence that may legitimately lay in their power, with the medical profession and the people generally, to convince them of the utility, and to secure their co-operation in furtherance of the establishment of the National School of Medicine.

The best mental abilities of this and any other country are but too often doomed to subordinate positions, owing alone to pecuniary inability to lay hold on the advantages which surround them; and as a nation's true wealth consists in the knowledge and wisdom of its people, it is believed by this Association that said school of medicine should be sustained by the nation at national expense. Therefore be it

Resolved, That the President of this Association shall at *this* meeting appoint the Committee above referred to—of one medical man from each State—and that said Committee shall report to this body through the chairman of said Committee, the result of their labors, at the next meeting of this Association.

Resolved, That said Committee be requested to especially bring to the notice of the State Medical Societies or Associations, the proper establishment of our American National School of Medicine, and to urge the importance of prompt action on the part of said bodies, and that each body referred to be requested to send one delegate to the next meeting of this Association, and that it shall be the duty of said delegates to confer with each other as to the best mode of carrying into effect the proposed National School of Medicine.

Resolved, That so soon as two thirds of the State Medical Societies or Associations of this nation shall send each a delegate to meet with this Association, for the purpose above expressed, said delegates shall at once proceed to draft a charter for said School of Medicine, and shall submit it to this Association for its approval.

Resolved, That the President of this Association shall submit said charter, when approved by this Association, to the Congress of the nation, and shall use all honorable legitimate means in his power to secure its adoption, that it may become a law.

The following voluntary communications were offered and referred :—

On the Cultivation of the Cinchona in the United States, by Dr. T. Antisell, of District of Columbia, referred to Section on Materia Medica and Chemistry.

On the Treatment of Malignant Tumors by Electrolysis, and on the Action of the Galvanic Current on the Sympathetic Nerve, by Dr. Wm. Neffel, of New York.

On Idiopathic Lateral Curvature of the Spine, by Dr. B. Lee, of Pennsylvania, both referred to Section on Surgery and Anatomy.

On Cholera and on Cerebro-Spinal Meningitis, by R. Burns, of Pennsylvania, referred to Section on Practical Medicine and Obstetrics.

On some of the Indications for the use of Spectacles in Hypermetropia, by O. D. Pomeroy, of New York, referred to Section on Surgery and Anatomy.

On the Physiological Laws of Human Increase, by Nathan Allen, of Massachusetts.

Treatment of Acute Puerperal Mania with Hydrate of Chloral, by H. Meisel, of New York, both referred to Section on Practical Medicine and Obstetrics.

THIRD DAY.

Dr. F. G. Smith, of Pennsylvania, Chairman of the Committee on Nomenclature, presented their report accompanied by the following resolution :—

Resolved, That the American Medical Association be requested to appoint a committee to prepare a Nomenclature of Diseases, which, on approval by the Association, shall be submitted to the medical practitioners of the United States for adoption and observance.

Dr. Alfred Underhill, of New York, submitted a paper on the same subject from the Medical Society of the State of New York, and offered that it be substituted for the report of the Committee.

Dr. Isaac Jump, of Delaware, moved the adoption of the resolution offered by the Committee.

After some discussion, the resolution was adopted.

On motion of Dr. Underhill, the report offered by him was referred to the Committee thus ordered.

Committee on Nomenclature of Diseases.—Drs. Francis G. Smith,

of Philadelphia, (Chairman); George B. Wood, of Philadelphia; S. H. Dickson, of Philadelphia; Alfred Stillé, of Philadelphia; S. E. Chaillé, of Louisiana; J. J. Woodward, United States Army; G. A. Otis, United States Army; W. S. W. Ruschenberger, United States Navy; Ninian Pinkney, United States Navy; Alonzo Clark, of New York; Austin Flint, of New York; Edward Jarvis, of Massachusetts; Wm. M. McPheeters, of Missouri; L. P. Yandell, of Kentucky; A. B. Palmer, of Michigan; Theo. Parvin, of Indiana; R. F. Michel, of Alabama.

The Chairman of the Committee on Nominations offered the following additional report:—

Committee on the Climatology and Epidemics of—

Maine, Dr. J. C. Weston; New Hampshire, Dr. P. A. Stackpole; Massachusetts, Dr. H. I. Bouditch; Rhode Island, Dr. C. W. Parsons; Connecticut, Dr. J. C. Jackson; New York, Dr. W. F. Thoms; New Jersey, Dr. C. F. J. Lehlbach; Pennsylvania, Dr. D. F. Condie; Maryland, Dr. C. H. Ohr; Georgia, Dr. Juriah Harriß; Missouri, Dr. F. E. Baumgarten; Alabama, Dr. R. F. Michel; Texas, Dr. S. M. Welsh; Illinois, Dr. R. C. Hamil; Indiana, Dr. J. F. Hibberd; District of Columbia, Dr. T. Antisell; Iowa, Dr. J. C. Hughes; Michigan, Dr. G. P. Andrews; Ohio, Dr. T. L. Neal; California, Dr. F. W. Hatch; Tennessee, Dr. B. W. Avent; West Virginia, Dr. E. A. Hildreth; Minnesota, Dr. Charles N. Hewitt; Virginia, Dr. W. O. Owen; Delaware, Dr. L. P. Bush; Arkansas, Dr. G. W. Lawrence; Mississippi, Dr. J. P. Moore; Louisiana, Dr. S. M. Bemiss; Wisconsin, Dr. J. K. Bartlett; Kentucky, Dr. L. P. Yandell, Sr.; Oregon, Dr. E. R. Fisk; North Carolina, Dr. William H. McKee.

On Medical Education.—Drs. Ely Geddings, of South Carolina, (Chairman); J. M. Forrest, of Missouri; Egbert B. Johnston, of Alabama; —Ayres, of California.

On Medical Literature.—Drs. —Robertson, of Missouri (Chairman); Joseph Jones, of Louisiana; L. D. Waterman, of Indiana; David King, of Rhode Island; Charles A. Lee, of New York.

On American Medical Necrology.—Dr. C. C. Cox (Chairman), continued.

SECTIONS.

Chemistry and Materia Medica.—Drs. D. W. Yandell, of Kentucky (Chairman); H. S. Hurd, of Illinois (Secretary).

Practical Medicine and Obstetrics.—Drs. H. R. Storer, of Massachusetts (Chairman); J. K. Bartlett, of Wisconsin (Secretary).

Surgery.—Drs. J. L. Atlee, of Pennsylvania (Chairman); Horace Carpenter, of Oregon (Secretary).

On Meteorological and Epidemic Diseases.—Drs. S. N. Davis, of Illinois (Chairman); C. C. Hildreth, of Ohio (Secretary).

On Medical Jurisprudence.—Drs. T. Parvin, of Indiana (Chairman); J. A. Murphy, of Ohio (Secretary).

On Psychology.—Drs. J. H. Griscom, of New York (Chairman); O. F. Renick, of Missouri (Secretary).

Committee of one to assist the Librarian, to reside at Washington; to be continued, Dr. Joseph M. Toner.

S. M. BEMISS,

Chairman of Committee on Nominations.

The report was adopted as read.

Dr. A. W. Stein, of New York, offered the following:—

Whereas, We regard the cultivation of veterinary science of the most vital importance not only to the advancement of human medicine, but also for reasons of political economy and agricultural interests—

Resolved, 1. That we recommend the State and county medical societies to use their influence in the establishment and support of veterinary schools in their respective States.

2. That they ask the Governors of their respective States to recommend in their messages to their legislatures the importance of establishing veterinary colleges, and that appropriations be made to support them.

3. That they recommend the Governors and State Legislatures when organizing Boards of Health, to appoint one or more thoroughly educated veterinary surgeons to the association as commissioners with the other officers of the Board.

Resolved, That we recommend the employment of veterinary surgeons in the army, and one in the Agricultural Department, with the rank and pay of other medical officers.

The first, second, and third resolutions were adopted.

Dr. Otis moved as a substitute for the last, that we recommend the government to appoint a professor of veterinary medicine and surgery to be attached to the Agricultural Bureau with a suitable salary.

This was adopted.

Dr. Mussey, of Ohio, moved to lay the whole series of resolutions on the table, which was lost.

On motion, the preamble and resolutions were then adopted as a whole.

On motion of Dr. J. C. Tucker, of California, it was

Resolved, That a committee of three be appointed by the President to express to Congress the opinion of the American Medical Association, that a national system of quarantine should take the place of the present irregular, and in many coast States, inefficient local quarantine regulations.

Committee: Drs. J. C. Tucker, of California; Wm. Clendennin, of Ohio; E. Harris, of New York.

The Permanent Secretary, on behalf of Dr. Joseph Parrish, of Pennsylvania, offered the following, which was adopted:—

Resolved, That a committee be appointed to report next year on the feasibility of establishing institutions for the cure of persons addicted to the use of intoxicants, and on the most approved methods of conducting such institutions.

Committee: Drs. Joseph Parrish, of Pennsylvania; Willard Parker, of New York, and W. H. Mussey, of Ohio.

On motion of Dr. B. F. Dawson, of New York, it was

Resolved, That as several so-called medical works of a character decidedly injurious to the morals of the young, have been advertised in the daily press throughout the country and offered for sale in general bookstores, and that as such advertisements are over the names of the authors, therefore it is

Resolved, That the said authors who make such use of their names for the evident purpose of notoriety, be refused membership in this Association, unless said advertisements are withdrawn at once.

On motion of Dr. I. Jump, of Delaware, it was

Resolved, That the Committee of Arrangements for Sessions of this Association in all future time till further ordered, be instructed to include in their programme, a dinner on the third day of the session, at the expense of the members of the Association.

On motion of Dr. W. H. Mussey, of Ohio, it was

Resolved, That that clause in the By-Laws which provides that every alternate meeting of the Association be held at Washington be repealed, that in the future the place of meeting shall be determined at each session of the Association.

Dr. John Curwen, of Pennsylvania, then read his paper on *The Proper Treatment of the Insane*.

On motion it was referred to the Committee on Publication.

On motion of Dr. James P. White, of New York, it was

Resolved, That this Association recommend the different medical schools of this country to establish chairs of mental disorders, thus affording didactic and clinical instruction in this subject as a regular branch in the college curriculum.

Dr. Grafton Tyler, of District of Columbia, Chairman of the Committee of Prize Essays, offered the following:—

The Committee on Prize Essays report that they have received six essays which have been critically examined. Most of these essays evince much research and diligence on the part of their authors, being well worthy to be published, but there is only one which the Committee judge to have a claim to the prize, which they award to "An Essay on the Treatment of Aneurism, with Experiments for the Closure of Arteries by a new Method," bearing the motto—" *Sola Virtus Invicta*."

GRAFTON TYLER,
N. S. LINCOLN,
J. R. W. DUNBAR.

Dr. Tyler then broke the seal of the envelope bearing this motto, and announced as the author of the successful essays, Benjamin Howard, M. D., of New York.

The Section on Surgery through Dr. L. A. Sayre, of New York, recommended the appointment of Dr. M. H. Henry, of New York, as a committee to report upon what, if any, legislative means are expedient and advisable to prevent the spread of contagious diseases.

On motion, the appointment was made.

On motion of Dr. B. F. Dawson, of New York, it was
Resolved, That as the medical press of this country is recognized as holding a position of great power and high character,

Be it *resolved*, That in order to still further elevate its character and augment its influence, the editors of the medical journals of this country be requested by this Association to refuse to notice, in their journals, all patent medicines, instruments, works of unprofessional or unscientific character, non-chartered institutions or hospitals, and the cards of specialists. And that advertisements of the above be refused insertion in their respective journals. And further, that such journals declining to obey the above, be refused the courtesy of exchange, and their editors be refused membership in the Association of American Medical Editors.

Next come the majority and minority reports of the committee on Ethics.

We will endeavor to explain to our readers how these reports chanced to possess so much political interest as to elicit so many long-winded and partisan editorials in the Court Journal, as well as in other organs of the party now in power, and to what extent they really involved questions touching the "colored persuasion" and friends.

Some months ago a movement was made in the senate chamber at Washington, to abrogate the charter of the Medical Association of the District of Columbia. The statement of this fact is sufficient to indicate that this old medical organization had on some account or other failed to keep pace with the march of "human progress." Perhaps coincidently with the above mentioned movement, a new Medical Association was organized and called the National Medical Society of the District of Columbia.

This latter Association was composed of persons whose state of political advancement was entirely satisfactory, and who included negro doctors—we beg the Society's pardon—"colored doctors" among their members.

The question which divided the Committee on Ethics was upon the admission of the delegates accredited to the American Medical Association by the National Medical Society of the District of Columbia. These delegates were first denied their credentials by the Committee on Registration, and afterwards rejected by the adoption of the majority report of the Committee on Ethics. Whether or not any negro members were

included in this list of rejected delegates we are not informed, but presume such was the case, as a very smart looking mulatto sat among or near them at the first session of the Association, but afterward we lost sight of him. We place in juxtaposition the two reports, together with the reasons "in writing" for the majority report.

Dr. N. S. Davis presented a report from the majority of the Committee, as follows:—

It appears that the matters reported to your Committee, consisting of the majority report of the Committee of Registration, and so much of the action of the majority of same Committee as relates to the same subjects, embrace the three following subjects:—

First. A charge that the majority of the Registration Committee had refused to register the delegates presenting credentials from several societies, colleges, and hospitals in the District of Columbia which claimed the right to representation.

Second. Direct charges against the Medical Society and the Medical Association of the District of Columbia, accompanied by a protest against the admission of delegates from those bodies.

Third. Direct charges, which had been lodged with the committee of Registration, against the National Medical Association of the District of Columbia, accompanied by a protest against the registration of delegates from that Society and from such other institutions as were supplied with medical officers who were members of that Society.

In regard to the first charge, your Committee find on investigation that the Registration Committee have duly registered all the delegates from all the medical institutions claiming representation in the District of Columbia in accordance with the usages and By-Laws of the Association, except the medical Society of the Alumni of Georgetown College, the National Medical Society, the Howard Medical College, the Freedman's Hospital, and the Smallpox Hospital, these being the institutions included in the charges already mentioned in the third specification.

It remains, therefore, only to consider the second and third specifications, and your Committee ask leave to report on these separately. In relation to the second we unanimously recommend the following resolution:—

Resolved, That the charges offered by Dr. Reiburn, as a minority of the Committee on Registration, against the medical Society and the Medical Association of the District of Columbia, are not of a nature to require the action of the American Medical Association, the first charge referring to the duty imposed on the Society by an act of Congress, and the second referring to a matter which does not come in conflict with any part of the code of ethics.

Resolved, That so far as relates to the Medical Society of the Alumni of Georgetown College, it has been shown to us that the Society has sixty resident members, and is therefore entitled to six delegates instead of as requested by the Committee.

In regard to the third proposition relating to the National Medical Society, Howard Medical College, the Freedman's Hospital, and the Smallpox Hospital, we recommend the following:

Resolved, That the duties of the Committee of Arrangements, so far as relates to the registration of members, is purely clerical, consisting in the verification of the certificates of delegates and a report on the same. If credentials in proper form are presented from any society or institution possessing such forms would place it *prima facie* in the list of institutions enumerated in the constitution of the Association as entitled to representation, but against which charges have been made or protests presented, the names of the delegates presenting such credentials, together with the charges or protests in the possession of the Committee, should be reported to the Association for its action.

Resolved, That the charges lodged with the Committee of Arrangements against the eligibility of the National Medical Society of the District of Columbia have been so far sustained that we recommend that no member of that Society should be received as delegates to the present meeting of this Association.

N. S. DAVIS,
H. F. ASKEW,
J. M. KELLER.

Dr. Alfred Stille presented a report from the majority of the Committee as follows:—

The undersigned members of the Committee on Ethics, while subscribing to the greater portion of the report of the majority, feel it their duty nevertheless to dissent from the final resolution recommending the exclusion of the members of the National Medical Society of the District of Columbia, from the present meeting of this Association; they offer, therefore, in lieu of that resolution the following:—

Whereas, The institutions excluded from representation by the action of the Committee on Credentials, viz: The National Medical Society, the Howard Medical College, the Freedman's Hospital, and the Smallpox Hospital, are regularly organized as the constitution of the Association requires: *And whereas*, the physicians so excluded are qualified practitioners of medicine who have complied with all the conditions of membership imposed by this Association: *And whereas*, in the judgment of the undersigned no sufficient ground exists for the exclusion of such institutions and physicians from this Association: therefore

Resolved, That the institutions above named are entitled to representation, and that the physicians claiming to represent them are entitled to seats in the American Medical Association.

ALFRED STILLE,
J. J. WOODWARD.

Dr. T. C. Maddox, of Maryland, moved to accept the report of the majority.

Dr. Cox moved to substitute the report of the minority.

Dr. E. L. Howard, of Maryland, moved to lay the minority report on the table, and called the ayes and noes on the motion.

The question having been asked who from the District of Columbia had a right to vote, the President decided that all from the District of Columbia should be allowed to vote who had been favorably reported upon by the Committee on Ethics.

Dr. Cox appealed from the decision of the Chair.

The vote was put by the Permanent Secretary, who announced that the Chair was sustained by ayes 115, nays 90.

The Permanent Secretary then called the roll on the motion to lay the minority report on the table, and announced the vote Ayes 114, noes 82.

Dr. N. S. Davis, on behalf of those who made the majority report, presented the following:—

In reply to the resolution of the Association, calling upon the majority of the Committee on Ethics for the reason why they in their report excluded the delegates from the Medical Department of Howard University, they respectfully state that there is nothing in their report which directly excludes delegates from the said University, or any other medical institution in the District of Columbia, except the National Medical Society.

The resolution on this subject, reported by the Committee, is in these words:—

“*Resolved*, That the charges lodged with the Committee of Arrangements against the eligibility of the National Medical Society of the District of Columbia, have been so far sustained that we recommend that no members of that Society should be received as delegates at the present meeting of the Association.”

It will be seen that the only parties excluded from admission as delegates at the present meeting are the members of the National Medical Society. If the Medical Department of Howard University had chosen to send any delegates who are not members of that Society, there is nothing whatever in the report to prevent them from being received.

In the papers referred to your Committee on Ethics were a list of charges with specifications in the usual form against the recognition of the National Medical Society. These charges may be clearly stated as follows:—

1st. That said National Medical Society recognizes and receives as members medical men who are not licentiates, and who are acting in open violation of sections 3, 4, and 5 of the laws of Congress constituting the charter of the Medical Society of the District of Columbia.

2d. That a large part of the members of the National Medical Society are also members of the Medical Association of the District of Columbia, and are openly and freely violating the rules and ethics of the Association to which they have subscribed.

3d. That they have, both in its capacity as a society and by its individual members, misrepresented the action of the Medical Society and the Medical Association of the District of Columbia, and used unfair and dishonorable means to procure the destruction of the same, by inducing Congress to abrogate their charter.

Each and all of these charges were, in the opinion of the majority of our Committee, fully proved by the members of the National Medical society themselves, who appeared voluntarily before your Committee as witnesses. Therefore, if we have any regard to the maintenance of the laws of the land, or the ethics of our medical organizations, the undersigned would not come to any other conclusion than was expressed in the last resolution recommended by the majority of the Committee on Ethics.

(Signed) N. S. DAVIS,
H. F. ASKEW,
JAMES M. KELLER.

A motion was made to refer the report to the Committee of Publication, on which much discussion ensued, fully participated in by Drs. Reyburn, Antisell, W. P. Johnson, J. J. Woodward, Busey, and others, when the previous question was called and sustained, and the report was referred to the Committee of Publication.

Our readers must now judge each for himself, how much politics and the negro had to do with the quarrel, either as to its origin or decision.

It is true that it should not excite great surprise to an American to find the usual acrimonious and personal discussions concerning the negro mixed up in the *res gestæ* of any assemblage specifically American,—even those professedly, altogether scientific in their character. The keepers of the national elephant find that showing him is still a profitable occupation, and so long as that is the case, these exhibitions and annoyances will be repeated. If those pestiferous people could only be persuaded to let the negro pass through a requisite stage of probation, and stand or fall upon his own merits and accomplishments, his introduction to associations of the learned, if effected at all, would be looked upon as legitimate and meet with little or no opposition.

Instead, however, of pursuing this reasonable course, they endeavor to force him into every association or assemblage, no matter of whom or for what purpose convoked. This they do, not because they think the negro possesses any virtue or qualification which should recommend him as fit for the positions to which they so summarily exalt him, but simply because he is a

negro, and not a Piegan Indian (excellent food for gunpowder,) nor a Chinese Coolie, (who can work in a New England shoe shop "fourteen hours in each twenty-four, eat rice and sleep on a piece of sail-cloth at night)."

Perhaps this is too much the language of the politician, and contains too much of invective to be appropriate to the pages of a scientific periodical, but we feel that we are stating truths which should be expressed in unambiguous terms.

We wish we could afford space for the publication of the names of voters upon call of ayes and nays upon tabling the minority report. If for no other purpose it would afford our readers amusement to observe what evidences of perplexity, on the part of some teachers in Northern schools which are prominent candidates for Southern favor and patronage, became apparent in the fact that they neither voted one way or the other. This is especially true of one of the Philadelphia schools. Surely such distinguished consideration should be rewarded—by one side or the other.

Dr. Henry Hartshorne, of Philadelphia, offered the following amendment to the Constitution.

That the said Constitution be so amended as to add the following words: Nothing in this Constitution shall be so construed as to prevent delegates from colleges in which women are taught and graduated in medicine, and hospitals in which medical women, graduates in medicine attend, from being received as members of this Association.

It is written that the Emperor Severus found it necessary to pass a law prohibiting women from participating in gladiatorial exhibitions. It amazes us of the present age to learn that woman's timid tender heart could ever endure this arena of strife and blood, and still more to learn that so great and general was the fascination for the new sensation that a legal bar to its indulgence must be established. Her appearance as a member of that profession whose duty is to heal and not to wound or destroy is much more becoming the gentler and lovelier attributes of her character. But we do insist upon it that in qualifying herself to practice this profession, and in all her scientific convocations after she has acquired that knowledge, it will be in better taste and infinitely more agreeable and profitable to all parties concerned if she would confine her associations strictly to her own sex, including, of course, those professional eunuchs who

hold chairs in female medical schools. We throw the responsibility of a different course upon her, for however much men may love and cherish women we think there are very few who have any fancy to meet them in the dissecting room, the surgeon's operating room, or in the halls of the American Medical Association.

On motion of Dr. C. A. Lee, of New York, it was

Resolved, That this Association regards with much regret the continued action of the Superintendents of the Insane Hospitals of the United States, in standing aloof from this body, for whose accommodation the "psychological section" was created.

Resolved, That they be respectfully requested to reconsider their determination, and by joining this great representative body of the profession of the United States, render our body a unit in *action* as we are actually in *fact*.

On motion of Dr. Lee, it was also

Resolved, That Professor F. M. Moore, of Rochester, New York, be appointed a special committee to report on the subject of *Lithotripsy*.

Dr. T. S. Powell, of Pennsylvania, offered the following, which, being regarded as an amendment to the Constitution, was laid over under the rules.

Whereas, The term *regular*, as applied to colleges and institutions, is not fully defined in the Constitution of this Association, therefore be it

Resolved, That this Association will not recognize as regular or in good standing any medical college or institution that is repudiated or refused recognition by the medical association or society of the State in which such college or institution is located, or so long as charges of irregularity against said college or institution are pending before its State Medical Association.

Dr. W. H. Mussey, of Ohio, offered the following amendment to the Constitution:

MEMBERSHIP.

That in the apportionment of delegates to this Association, all the local societies of each county of a State or district of a territory of the United States, shall hold a conference in such locality, and with a list of the active members of all such societies, shall proceed to make a *pro-rata* distribution of candidates, including the name of no member but once in such apportionment; the members so apportioned shall then be furnished to the individual societies for election. All societies refusing to make it party to the conference, shall not be represented in this Association.

On motion of Dr. J. F. Hibberd, of Indiana, it was

Resolved, That the papers in the case of Drs. Sayre and Ruppner be referred to the local Society in New York.

Dr. C. H. Nichols, Chairman of the Committee on Inebriate

Asylums, appointed in 1868, having reported some progress on that subject, on motion permission was given him to continue and report at the next session.

On motion of Dr. C. A. Lee, of New York, it was

Resolved; That the paper by Dr. Charles A. Lee, of New York, on the proper and best mode of caring for the insane of the United States, which was read at the Section on Psychology, but which was not acted on owing to the small number present, be referred to the Committee of Publication.

On motion of the Permanent Secretary, inasmuch as the report of Dr. Deal, on Cultivation of Cinchona in the United States, could not be read for want of a quorum in the Section on Materia Medica and Chemistry, it was referred to the Committee of Publication.

On motion, Dr. Antisell's paper on the same was similarly referred.

The Section on Meteorology and Epidemics reported their minutes, which, on motion, was referred to the Committee of Publication.

The Section on Practice of Medicine and Obstetrics reported their minutes, which were similarly referred.

The following was offered by Dr. H. R. Storer, of Massachusetts:

Whereas, A memorial from the Gynæcological Society of Boston was presented to the Association at its meeting at New Orleans, in 1869, setting forth that a circular was to be sent in the name of the Society, to the faculties of the several medical colleges in the United States, calling attention to the scientific and practical importance of the *diseases of women*, as regards their frequency, causation, effects, and curability, the neglect that they have thus far experienced at the hands of the profession, and the reasons therefor, and the great need of a change in this particular, and requesting their assistance towards this end, by the establishment in every instance of a separate chair or lectureship of Gynæcology, as distinguished from Obstetrics or Midwifery; and praying that in furtherance of the objects of the circular, it might receive the final approval of the Association.

And whereas, in consequence of the absence of representatives of the Gynæcological Society at the meeting at New Orleans, the consideration of the subject was then postponed, therefore

Resolved, That the association views with approval the suggestions made by the Gynæcological Society of Boston, with reference to collegiate instruction upon the diseases of women, and recommends to the schools their more general adoption.

A motion of Dr. J. S. Cohen, of Pennsylvania, to refer it to the teachers' convention, was lost.

On motion of Dr. J. L. Sullivan, of Massachusetts, it was adopted.

Dr. John L. Sullivan, of Massachusetts, offered the following:—

Resolved, That no distinction of race or color shall exclude

from the Association persons claiming admission and duly accredited thereto.

This resolution was simply irrelevant and impertinent, and was offered by a man who seems to be typically insane on the "color" question. He received a justly merited rebuke in finding his resolution tabled by a vote of 106 to 60.

Dr. H. R. Storer, of Massachusetts, offered the following:—

Resolved, That inasmuch as it has been distinctly stated and proved that the consideration of race and color has had nothing whatsoever to do with the decision of the question of the reception of the Washington delegates, and inasmuch as charges have been distinctly made in open session to-day attaching stigma of dishonor to parties implicated, which charges have not been denied by them, though present, therefore

The report of the majority of the Committee on Ethics be declared, as to all intents and purposes, unanimously adopted by the Association.

A motion to lay on the table was negatived.

Dr. Cox moved its indefinite postponement.

This was negatived.

The previous question was then called and sustained,

The vote was then taken upon the resolution of Dr. Storer, which was adopted—ayes, 112; nays, 34.

We presume Dr. Storer's resolution was a kind of placebo—an effort to pour oil on troubled waters, even at hazard of strict interpretation of truth.

On motion, the Association adjourned to meet at San Francisco, on the first Tuesday in May, 1871.

Those of our readers who prefer full reports of the proceedings can obtain them by enclosing twenty-five cents to the address of the Permanent Secretary, Dr. Wm. B. Atkinson, 1400 Pine street, Philadelphia.

Report to the Faculty of the Medical Department of the University of La., in regard to the Convention of Medical Teachers lately held at Washington City.

To the Dean and Faculty of the Medical Department of the University of Louisiana.

By a Faculty resolution dated 6th of April, 1870, the undersigned was appointed a delegate to represent the University of La. in the Convention of Medical Teachers, which was to meet in Washington

City, on the 29th of April. He respectfully offers the following report showing his obedience to the resolution and the instructions of the Faculty; and also the result of the anticipated Convention.

The Convention met at the time and place indicated, and the following named teachers were present, representing the various Schools to which their names are respectively annexed.

Institutions Represented—Names of Delegates.—N. O. School of Medicine, Prof. Sam'l Logan; Howard University of D. C., Profs. Robert Reyburn, Silas L. Loomis; University of South Carolina, Profs. A. N. Talley, John T. Darby; Detroit Medical College, Prof. E. W. Jenks; Missouri Medical College, Prof. J. S. Moore; Chicago Medical College, Prof. N. S. Davis; Medical Department Georgetown College, Profs. J. H. Thompson, C. C. Cox; Medical Department Williamette University, Prof. Horace Carpenter; University of Louisiana, Prof. S. M. Bemiss; Jefferson Medical College, Prof. S. D. Gross; University of Pennsylvania, Profs. F. G. Smith, Alfred Stille; St. Louis Medical College, Prof. J. B. Johnson; Washington University, Baltimore, Md., Prof. Chas. W. Chancellor; University of Louisville, Prof. David W. Yandell; Kansas City Medical College, Profs. John M. Forrest, A. P. Lankford; Missouri Medical College, Prof. A. Hammer; Medical Department University, Nashville, Profs. W. K. Bowling, W. G. Briggs; National Medical College, D. C., Profs. W. P. Johnston, N. S. Lincoln; Medical Department University, Maryland, Prof. F. Donaldson.

The Convention was organized by the election of Profs. S. D. Gross, President, D. W. Yandell, Vice President, and N. S. Davis, Secretary.

Upon motion of Prof. N. S. Davis, the Convention resolved to take up the five propositions agreed to by the Convention of Medical Colleges which met in Cincinnati in 1867, and consider them separately in the order in which they appear in the printed report of the proceedings of that meeting.

“*Resolved*, 1st. That every student applying for matriculation in a Medical College shall be required to show, either by satisfactory certificate, or by direct examination by a committee of the Faculty, that he possesses a knowledge of the common English branches of education, including the first series of mathematics, the elements of the natural sciences, and a sufficient knowledge of Latin and Greek to understand the technical terms of the profession; and that the certificate presented, or the result of the examination thus required, be regularly filed as a part of the records of each Medical College.

2d. That every medical student shall be required to study four full years, including three regular annual courses of Medical

College instruction, before being admitted to an examination for the degree of Doctor of Medicine.

3d. That the minimum duration of a regular annual lecture term, or course of Medical College instruction, shall be six calendar months.

4th. That every Medical College shall embrace in its Curriculum the following branches, to be taught by not less than nine Professors, viz:; Descriptive Anatomy, including dissections; Physiology and Histology; Inorganic Chemistry; Materia Medica; Organic Chemistry and Toxicology; General Pathology, Therapeutics, Pathological Anatomy, and Public Hygiene; Surgical Anatomy and operations of Surgery; Medical Jurisprudence and Medical Ethics; Practice of Medicine; Practice of Surgery; Obstetrics and Diseases of Women and Children; Clinical Medicine and Clinical Surgery; and that these several branches shall be divided into three groups or series, corresponding with the three courses of Medical College instruction required.

The first, or Freshman series, shall embrace Descriptive Anatomy and Practical Dissections; Physiology and Histology; Inorganic Chemistry and Materia Medica. To these the attention of the student shall be mainly restricted during his first course of Medical College instruction, and in these he shall submit to a thorough examination by the proper members of the Faculty, at its close, and receive a certificate indicating the degree of his progress.

The second, or Junior series, shall embrace Organic Chemistry and Toxicology; General Pathology, Pathological Anatomy, Therapeutics, and Public Hygiene; Surgical Anatomy and operations of Surgery; Medical Jurisprudence and Medical Ethics. To these the attention of the medical student shall be directed during his second course of Medical College instruction, and in them he shall be examined at the close of his second course, in the same manner as after the first.

The third, or Senior series, shall embrace Practical Medicine; Practical Surgery; Obstetrics and Diseases peculiar to Women and Children; with Clinical Medicine and Clinical Surgery in a hospital. These shall occupy the attention of the student during his third course of College instruction, and at its close he shall be eligible to a general examination for the degree of Doctor of Medicine.

The instruction in the three series is to be given simultaneously, and to continue throughout the whole of each annual College term; each student attending the lectures on such branches as belong to his period of progress in study, in the same manner as the sophomore, junior and senior classes, each pursue their studies simultaneously throughout the Collegiate year in all our Literary Colleges.

5th. That every Medical College should immediately adopt some effectual method of ascertaining the actual attendance of students, upon its lectures and other exercises, and at the close

of each session, or of the attendance of the student, a certificate specifying the time and the courses of instruction actually attended, should be given, and such certificates only should be received by other Colleges as evidence of such attendance."

Several amendments to the first proposition were offered and discussed—the principal designs of which were to obtain such a modification that a knowledge of Latin and Greek should not be made material to the student's admission to a Medical School. After much debate, during the progress of which the Convention seemed to be approaching a platform of uniform modification and requirement in respect to the first proposition, Prof. Alfred Stillé offered the following resolution, as "*a substitute for all the propositions to be acted upon by the Convention,*" including, therefore, the four propositions not immediately under consideration.

"*Resolved*, That, in the judgment of this convention, the propositions adopted in 1867, by the Convention of Delegates from Medical Colleges, embody a system of collegiate medical education in the highest degree commendable, and which if they could be generally carried into effect, would tend to elevate the medical profession; that, nevertheless, the requirements for the degree of Doctor of Medicine must be practically determined by each Medical College for itself, by the average attainments of its students, and by other considerations of which it alone can judge. And that, consequently, while abstaining from all attempts at dictation, this Convention reiterates, in the strongest manner, its desire that the several Medical Colleges will, in the changes from time to time made by them in the curriculum of study, endeavor to conform them to the general plan which was recommended by the Convention of 1867, and adopted in the same year by the American Medical Association."

The mover of this resolution supported it by remarks which embodied several showy, but extremely questionable generalities, amongst others, the statement that the colleges were able to report "growth" in medical teaching, and that any abatement whatever of the requirements of the five propositions adopted at Cincinnati would be a "retrograde movement" and "self-stultification" on the part of the Convention. Upon the first call of the question the resolution was lost by a decided majority.

Immediately subsequent to this action, Prof. Johnson, joined by the undersigned, requested information as to how many dele-

gates were empowered to bind their respective Schools to the decisions of this Convention?

The result of this enquiry showed that two, only, were invested with authority to pledge the institutions they respectively represented to such course of action on the part of the Convention, as should prove to be in conformity with their instructions, viz., Prof. Johnson, and the undersigned. Profs. Davis and Logan, announced that they were so fully advised as to the sentiments of their respective Faculties, that they were willing to pledge their co-operation in all reasonable measures of reform. All of the remainder of the delegates who made any reply to the interrogatory, admitted total lack of authority to commit their respective Faculties to any action whatever.

The inutility, or the absurdity even, of legislation by a body of delegates who had not received from their constituents even the semblance of enabling power was so apparent that all hopes of accomplishing good were at once ended.

A motion now prevailed to reconsider Prof. Stillé's resolution, and upon a second call of question, Prof. Gross moving its adoption, the resolution was adopted by a majority nearly or quite as decided as that which had previously opposed its passage.

Thus has terminated in miserable and humiliating failure, one further effort to bring the various Schools of the United States to an agreement in respect to general plans for improvement in medical education.

The cause of this failure is not chargeable wholly, or even in greater part, to the difficulty so much talked of, and which unquestionably does exist, of bringing about an agreement among medical teachers upon cardinal points in the system of medical education. If no other obstacle than this had presented itself, to thwart the purposes of the Convention, some rule of action would have been decided upon to which all could have subscribed. The failure should be charged to its real cause, viz: to the mortifying fact that in the public management of a number of medical schools, considerations of policy and expediency are paramount to any question touching either abstract professional rectitude or the advancement of the great interests of Medicine.

Jealousy and rivalry are causes productive of the greatest amount of disturbance to concerted action, or strictly regular conduct on the part of Medical Schools. For example, the spirit of rivalry is so strong between the Schools of two of our large

Eastern cities, that I learned from high authority that the absence of representation in the Convention, on the part of the schools of one, would positively fore-stall any action on the part of the representatives from the schools of the other. For these reasons it was natural for those schools which feared to take any forward steps lest their rivals might obtain some advantage over them, but which at the same time desired to retain the confidence of the profession and the popularity which brought them patronage, to seek some middle line of policy which should not commit them to any definite action, but should still exhibit such a semblance of progress as to avert censure or complaint.

It was therefore an admirable stroke of policy to frame a resolution as inoffensive and amiable as that quoted above, and to support it with remarks designed to quiet all impatience on the part of the general profession by announcing "growth" in medical education—a peculiarly felicitous, because ambiguous mode of expression. If any apology is thought necessary for this individualization and this earnestness of expression in an official paper, it is to be found in the unusual circumstances which surrounded those delegates who attended the Convention in the honest belief that it assembled for a good purpose, and that good results were to accrue from its action. Such delegates were illy prepared to find eminent teachers placing themselves in the incongruous and unseemly position of, professedly adhering to, and advocating propositions of reform in medical education, which are not enforced in their own schools; which they have never yet attempted, and in all human probability never will attempt to put in practice; which are not operative any where in this country; and which they know to be totally infeasible, and yet assuming that they would "stultify" themselves by abandoning that which was never adopted except on paper.

The undersigned also reports that in his opinion, as based upon the occurrences of the recent Convention, there is not, at this time, nor at any discernible period in the future, the slightest hope of any general co-operation on the part of the schools of the United States, in measures for the advancement of medical education. He therefore respectfully suggests that the Medical Faculty of this University, while conscious that it is at this time making earnest and efficient exertions to educate its students to the highest attainable standard of acquirements and skill, and also that it is upholding in every proper manner the honor and interests of the profession, shall yet determine to carry into effect whatever measures of reform or improvement in the present system of medical education it may regard necessary and feasible.

This it can do in its own time and manner, without further consultation with, or reference to, other institutions, but at the same time without declining co-operation with those schools of respectable standing which in good faith desire to place themselves upon a common platform. This course will avoid any par-

ticipation, on the part of this Faculty, in future repetitions of the undignified farce of "Medical School Conventions."

The day cannot be far distant when those medical schools, which act up to the determination that their diplomas shall be conferred upon those candidates only, who, after compliance with published rules, have attained a real standard of merit, will also determine to reject the tickets and diplomas of those schools which make them articles of mere traffic. Some line of demarkation, so boldly drawn as to become public to the profession, must be established between those institutions which make their highest honors covetable because they are real, and those which, on the other hand, seek no higher object than to fill their otherwise empty benches by unprofessional trimming and trickery, or by underselling or gratuitously distributing their tickets.

It is with pleasure that the undersigned testifies to a cordial co-operation, and agreement of opinion between Prof. Sam'l Logan, and himself, while carrying out the instructions of the Faculty of the University.

S. M. BEMISS.

The following is extracted from the record of proceedings of the last meeting of the Rhode Island Medical Society :

Dr. S. A. Arnold, Secretary of the Trustees of the Fiske Fund, read the annual report of the Board, which was received and ordered on file. No prize was awarded for any essay received during the past year. The Trustees offer the following prizes for the year 1870 :

First—Ununited Fractures. The conditions under which they occur, and the most successful method of treatment.

Second—Hydrate of Chloral. Its physiological effects and therapeutical uses.

For the best Dissertation on each or either of these subjects, the Trustees will pay the sum of one hundred dollars. Essays must be sent to the Secretary of the Fiske Fund Trustees, Dr. S. A. Arnold, on or before the first day of May, 1871.

Every competitor for a premium is expected to comply with the following regulations, viz :

To forward to the Secretary of the Fiske Fund Trustees, on or before the first day of May, 1871, free of all expense, a copy of his dissertation with a motto written thereupon, and also accompanying a sealed packet having the same motto inscribed upon the outside, and his name and place of residence within.

Previously to receiving the premium awarded, the author of the successful dissertation must transfer to the Trustees all his right, title and interest in and to the same, for the use, benefit and behoof of the Fiske Fund.

Letters accompanying the unsuccessful dissertations will be

destroyed by the Trustees unopened, and the dissertations may be procured by their respective authors, if application be made therefor within three months.

J. W. C. KELLY, M. D., Providence,
GEO. L. COLLINS, M. D., Providence,
LLOYD MORTON, M. D., North Providence,
Trustees.

S. AUG. ARNOLD, M. D., Providence, *Secretary of Trustees.*

We would call attention to the advertisement of the French manufacture of Sugar-Coated Granules and Dragees, first introduced by Messrs. Garnier, Lamoreux & Co., of Paris

It is often a great desideratum, in the administration of medicines, to conceal as much as possible the taste of nauseous drugs. Pharmacy has attempted various methods, but none, it seems to us, which addresses itself to the confidence of the profession so surely as the form of the Sugar Coated Pill.

We have in these preparations of Messrs. Garnier, Lamoreux & Co., of Paris, reliable drugs put up in a form both agreeable to sight and taste, and with an exactness in dose guaranteed by the character of the house manufacturing them.

We call attention of our subscribers to the list of these preparations, offered to the profession by the Agent of this house, Mr. F. A. Reichard, 15 Platt Street, New York.

As in the future numbers of the journal considerable space will be allotted to *reviews*, we would particularly request authors, publishers and others interested, to forward such works as they wish reviewed, in duplicate; otherwise their receipt will be simply acknowledged.

IN MEMORIAM.

Charles Hurst Kelly, M. D., Assistant Demonstrator of Anatomy in the University of Louisiana, and chief of Clinic to the Prof. of Theory and Practice of Medicine, died on the 31st of March, 1870.

Dr. Kelly was born in New Orleans, on the 18th of August, 1845. He was the youngest of eight children, born of the marriage of E. B. Kelly and E. E. Hurst

As early as 1853, an attack of rheumatic fever following convalescence from measles was complicated by "violent pericarditis." Serious dropsical effusion and pulmonary congestion resulted from the lesions of the heart, occurring during this illness.

His recovery was slow, but so complete that the family were not aware of the existence of any permanent disease affecting the heart.

In November, 1857, a second severe attack of rheumatism occurred, implicating both endocardial and pericardial structures. He was dangerously ill for a number of weeks, and after his recovery, a skillful diagnostician informed his mother that valvular insufficiency had ensued. In 1859 and 1862, attacks of rheumatism again occurred, the latter very severe.

In spite of so much ill-health, young Kelly, by his studious habits, and the natural brightness of his intellect, acquired a good English and classical education.

In 1865, he commenced the study of Medicine; during the succeeding year he became an interne in the Charity Hospital, and graduated in 1868, after an examination so excellent as to elicit the complimentary notice of each member of the Faculty.

Within a few months after his graduation, Dr. Kelly was appointed an assistant to the Professor of Theory and Practice, and discharged the duties, of this position with so much zeal and ability, that in the summer of 1869 he received the appointment of Chief of Clinic to the same Chair, and Assistant Demonstrator of Anatomy. During the Session of 1869 and '70 he discharged the obligations of both of these important offices with untiring industry and remarkable ability. He established a reputation for accuracy in diagnosis which caused his opinions to be viewed with respect by some of the most skillful physicians of the Charity Hospital.

Dr. Kelly was attacked with acute articular rheumatism on the 21st of March. The attack was a violent one, and in the opinion of the writer, was complicated by a quasi pyæmic condition of his system from prolonged exposure to the atmosphere of the anatomical rooms, still it seemed to be progressing favorably; but on the morning of March 31st, during a fit of retching he fell back and expired instantly. Death evidently occurred from heart lesions. From the absence of all evidence of renewed inflammation during his last illness, it was in all probability ascribable to causes which impended even during his best state of health. He had been liable to sudden, and sometimes severe, attacks of angina, for several years preceding his death.

At a Faculty meeting, held on the 2d day of April, the following resolutions, were unanimously adopted.

Resolved, That in the death of Dr. Charles H. Kelly, Chief of Clinic, to the Chair of Theory and Practice of Medicine, in this Institution, and Assistant Demonstrator of Anatomy, this Faculty has lost one of the most capable and efficient assistants, and the profession a talented and promising member.

Resolved, That we tender the friends of the deceased expressions of earnest sympathy and condolence.

B.

BOOKS AND PAMPHLETS.

- The Cell Doctrine, its history and present state. By James Tyson, M. D., etc. Pps. 150, with colored plate and other illustrations. Philadelphia: Lindsay & Blackiston. New Orleans: A. Eyrich.
- A Physician's Problems. By Chas. Elam, M. D., M. R. C. P. Boston: Fields, Osgood & Co., 1869. Pps. 400.
- Sleep and its Derangements. By Wm. A. Hammond, M. D. Philadelphia: J. B. Lippincott & Co. New Orleans: A. Eyrich.
- Manual of Hypodermic Medication. By Roberts Bartholow, A. M., M. D., etc. J. B. Lippincott & Co., Philadelphia. A. Eyrich, New Orleans.
- Obstetric Operations, including the Treatment of Hæmorrhage. By Robert Barnes, M. D., London, F. R. C. P., etc., with additions, By Benj. F. Dawson, M. D., etc. Pps. 483. 1870: D. Appleton & Co., New York. James Gresham, New Orleans.
- Anatomy, Descriptive and Surgical. By Henry Gray, F. R. S., etc. A new American, from the fifth and enlarged English edition, with 462 wood engravings, 1870. Pps. 876. Henry C. Lea, Philadelphia. James A. Gresham, New Orleans.
- A Treatise on the Water of the Hot Springs, Ark. By Dr. G. W. Lawrence. 1870. From author.
- Relative Dangers of Anæsthesia by Chloroform and Ether, from Statistics of 209,893 cases. By S. Andrews, A. M., M. D., etc. 1870. From author.
- Valedictory Address to the Graduating Class of the New Orleans Dental College, Session of 1869-70. By J. S. Harrison, A. M., M. D. From author.
- Thoughts on Chronic Inversion of the Uterus. By Henry Miller, M. D. From author.
- Fourth Announcement of New Orleans Dental College.
- Oxygen Gas as a remedy in disease. By Andrew H. Smith, M. D., etc. From author.
- Spinal Irritation. By Wm. A. Hammond, M. D. From author.
- The Transactions of the Medical Association of the State of Missouri. 1870.
- Correspondence concerning a fatal case of Placenta Prævia; prepared by Chas. E. Buckingham, M. D.
- Annual report of Alabama Insane Hospital. 1869.

Valedictory Address to the Graduating Class of Jefferson Medical College at the 45th Annual Commencement, March 12th, 1870. By J. Aitken Meigs, M. D. From author.

Population—its Law of Increase. By Nathan Allen, M. D., Lowell, Mass. From author.

Twenty-seventh Annual Report New York State Lunatic Asylum.

Sarcomatous Fibroma of Upper Jaw (epulis) successfully operated upon, (read before South Carolina Medical Association 1870). By R. A. Kinlock, M. D. From author.

Transactions of the South Carolina Medical Association.

Three cases of Imperforate Anus; with remarks. By J. H. Pavley, M. D., Yonkers, New York. From author.

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N. B.—Copies of the Journal will be found for sale at A. EYRICH, and other Book and Periodical Stores in this city.

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THE
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ORIGINAL COMMUNICATIONS.

ARTICLE I.—*An Essay on the Climate and Fevers of the South-Western, Southern, Atlantic and Gulf States; revised, enlarged and concluded, with a brief exposition and defence of the existence and essential nature of Malaria; illustrated and accompanied with a Medico-topographical and Meteorological account of the Dead Sea region.* By JAMES C. HARRIS, M. D., of Wetumpka, Alabama. [Second Edition, 1870.]

PART FIRST.—Continued.

Texas.—This State like the Carolinas and Georgia, is naturally divided into three regions; the *level*, the undulating, and the hilly or mountainous. The level region occupies the entire coast, extending from thirty to eighty miles into the interior. "The whole gulf-margin of this region, from the Sabine to the Rio Grande, except along the rivers, consists of a belt of prairie from eight to ten miles in width, which although *low* and entirely *level*, is almost free from marshes."* That part of this region which extends some seventy or eighty miles from the coast, between the Sabine and the San Jacinto rivers, is generally very well timbered. That between the San Jacinto and the Gaudalupe, is sufficiently elevated for almost perfect drainage after rains, and is pretty free from ponds and swamps. The bottom lands of the Brazos, the San Bernards and the Colorado are from

*Drake Prin. Dis. Int. Val. N. America Vd. 1st p. 157.

three to twenty miles in width and heavily timbered, presenting in some places canebrakes of immense extent."* The remainder of this region extending from the Guadalupe to the Rio Grande, is narrower from the San Antonio to the Nueces than those first described; and with the exception of the portion bordering on or within the valley of the lower Rio Grande, is more elevated and free from swamps and ponds. Throughout this entire region water can generally be obtained by digging, at the depth of from twenty to twenty-five feet below the surface; but on account of its holding in solution mineral ingredients and a large amount of organic vegetable remains, it is considered unhealthy, producing diseases of the stomach and bowels; near the coast it is frequently quite brackish. The river bottoms and alluvial lands generally, of this region are admirably adapted to the cultivation of cotton, rice and sugar cane. Whilst in the counties bordering on the coast the pine-apple, the olive, the lime, the lemon and the orange all grow luxuriantly.

The *undulating region* extends from the level, and embraces the whole of the interior and north, up to the hilly and mountainous tract. From near the mouth of the Red-Pecos to below Ringgold Barracks, on the Rio Grande, to the Nueces, is a hot and rather desert region, indifferently supplied with water. From the Nueces to the San Jacinto, the face of the country is gently undulating and diversified with prairie and forest; and east of the San Jacinto is tolerably well supplied with water.

The eastern section of this region, on the head waters of the San Jacinto, and between the Trinity and the Sabine, up to the Red River on the north, never rises higher than into elevated ridges, and although occasionally interspersed with prairies of greater or less extent, is nevertheless very well timbered with pine, oak, hickory, pecan, cedar, cypress and other forest trees, and almost everywhere out of the prairies abundantly supplied with water.

The *elevated, hilly or mountainous regions*, lie generally from one to two hundred miles north of the level region. Between the Brazos and the Colorado rivers, the face of the country first begins to present a broken, hilly appearance; westward of the latter

*Drake Prin. Dis. Int. Val. N. America Vd. 1st. p. 157.

river, on the San Saba, and north of the San Antonio, the country is traversed in various directions, most generally from north to South, by outlines from the Rocky Mountains; none of which, however, rise to any very considerable height; these mountain ranges continue to the west, in broken and irregular chains, until they reach the eastern border of the "Llano Estacado," where, losing their irregularity, they end in a gradual slope to the Rio Pecos and the Rio Grande. The mountains of the San Saba, which are the highest, are in many places thickly covered with dwarf oaks, cedars, bushes and briars. North of this mountainous region the great plain or table land, upon which they stand, with an elevation of from eighteen hundred to two thousand feet above the level of the Gulf, continues in a north-easterly direction to Red River. The height at different points a little west of the eastern declivity of this hilly region as given by Lieut. Pope, from actual admeasurement, is six miles south of Preston, on Red River 1200 feet; at the upper cross timbers 1792 feet; on the south foot of the Trinity 1524 feet; and between the Brazos and Colorado 4237 feet; on the extreme head waters and east of the hilly region just described, the country again becomes level, and in a series of prairies stretching to the north and north-west, beyond Red and Arkansas rivers; finally terminates at the foot of the Rocky Mountains. Beyond the western frontier settlements, from the Rio Grand to the parallel of $36^{\circ} 30'$ north, embracing the counties of El Paso and Presides, and the territories extending north up into, and embracing the Pan Handle, with New Mexico on the west, and the Indian Territory on the north-east, is mostly an unexplored country, and with the exception of the settlements, chiefly Mexican, near El Paso, contains but very few inhabitants. This whole region is said to be a good stock range, but with a scarcity of stock water, and though some of the soil is excellent, the droughts render it unfit for agriculture, except by irrigation. This region is reported to possess many valuable minerals.*

The whole of this State, the Indian Territory, and western part of Arkansas, are subject to what are commonly called *Northers*—

* Richardson's Texas Almanac for 1869, p. 92.

these violent cold, north winds, frequently accompanied with rain, and which continues from three to six or eight days, although occasionally occurring throughout the year, most generally commence in October or November, and end in March.

Rivers.—The principal rivers, beginning in the south west with the Rio Grande and ending in the east side of the Sabine, are the Neuces, San Antonio, Guadalupe, Colorado, Brazos, San Jacinto, Trinity and Neches. The longest of these, with the exception of the Rio Grande, are the Colorado and Brazos. The first of these originates in or near a salt pond, a little west of Mount Bow, and southwest of Mount St. Clara, latitude $32^{\circ} 40'$ north, longitude $25^{\circ} 10'$ west. The main or salt fork of the other, near the eastern line of Mount Cooper, latitude 33° north, longitude $24^{\circ} 20'$ west. These rivers are limited to the north by the water shed between them and Red River, the others arise near the Gulf, into the numerous shallow bays and sands of which they all discharge their waters. The double mountain and the catfish forks of the Brazos, and the main or north fork of the Colorado, long before they reach the extreme western settlements run through a great salt plain, which at certain seasons of the year, gives to their upper waters a decidedly brackish taste.

Towns and Cities.—Galveston, the principal city and chief emporium of the State, stands on the east end of Galveston Island, latitude $29^{\circ} 18'$ north, longitude $16^{\circ} 46'$ west. Houston, the late seat of government at the head of navigation on Buffalo Bayou, a small tributary of Galveston Bay; Austin, the present capital, is situated on the north bank of the Colorado river; Matagorda and San Antonio are also important places. The latter as the Head Quarters of the Military Department of Texas.

Fort Worth.—This southwestern Fort is situated about five miles north of the lower cross timbers, upon the south side of the Trinity river, just below the mouth of its clear fork, latitude $32^{\circ} 40'$ north, longitude $20^{\circ} 25'$ west. These two streams at their junction form an extensive, heavily timbered bottom, which during the spring rains is overflowed by the river, which on subsiding, leaves its surface filled with vegetable materials, exposed to the action of a very hot sun. This bottom extends first from

west to north, thence to the east of the fort, which with a southern exposure, at an elevation of one hundred and fifty feet above the bed of the river, stands immediately upon the northern extremity of an extensive elevated prairie; to its southwest, at no great distance, lies Sycamore creek, a tributary of the Trinity. The general surface of the surrounding country, with the exception, of the strip of timber above mentioned, consists of high, rolling prairies, alternating with rich bottom lands, along the water courses. The soil of the prairies is argillo-arenaceous; that of the bottoms a sandy alluvium. The fort meteorological register shows the mean temperature for July and August for three years, to have been 81° and $82^{\circ} 57'$ respectively; and for the months of December and January, for the same period $43^{\circ} 38'$ and $43^{\circ} 58'$ respectively, with a mean for the spring and summer of 23.30 inches of rain.

The climate of this fort is extremely variable, the summers being extremely hot, and the winters, though generally mild, subject to extreme changes of sudden cold. The south and south-east winds, during the hot dry months of July and August, in passing over the heated surface of the surrounding prairies, sometimes have their temperature raised to upwards of 100° Fahrenheit.

Occasionally, the wind changes to the north and north-east and blows from the river bottom or swamps—this change is always followed by an increase of *periodic fever*. According to the army medical returns from this fort, *intermittent and remittent fevers* appear to be the prevailing diseases. In some of the cases of intermittent fever observed by Dr. Williams, the cold stage was entirely wanting, a profuse diarrhœa supplying its place, which ceased as soon as the febrile symptoms came on, not unfrequently, however, reappearing again at the time for the next paroxysm. In other cases if neglected, or improperly treated, there was observed a decided tendency to assume a remittent type; with these exceptions there is nothing peculiar mentioned as occurring in either of these varieties of fever.*

Phantom Hill.—This post, at an elevation of 2,300 feet above

* Med. Stat. U. S. A. Report of As't Surgeon, Thos. H. Williams, 1852, p. 373.

the level of the Gulf, is situated between the Clear and Elm Forks of the Brazos, about one mile and a half above their junction, latitude $32^{\circ} 30'$ north, longitude $22^{\circ} 45'$ west. Opposite the fort the distance between these two streams is about one mile, their average width being about thirty feet, with a depth of some two or three feet. Its immediate site is in the midst of a grove of scrub oaks of about five acres in extent. A few miles to the west is an almost impenetrable thicket of several miles in extent, of black jack and green briars. The general character of the surrounding country is prairie; upon the high lands and ridges, the soil is poor and thin; in the bottoms alluvian, composed superficially of sand and red clay. About twenty miles to the south, is a small range of mountains and also a few groves of small timber, mostly post oak and black jack—stunted musquee trees are thinly scattered over the prairies, and a little timber, principally elm, pecan and hack-berry grows upon the very margin of the streams. The water of the river is brackish, and in warm weather turns very offensive after standing a short time. The mean quantity of rain for the year 1853 was 14.13 inches. It is about 235 miles southwest of Preston on Red River, 60 miles northeast of Fort Chadbonner, and about 200 miles northwest of the city of Austin. As this fort is near the eastern border of the "Llano Estacado," the strong winds and great dryness of its atmosphere, after a rain causes rapid evaporation, but as there are no ponds or swamps in its vicinity, it has thus far, as regards the prevalence of intermittent and remittent fevers proved almost exempt.*

Fort McKavett.—This fort is situated in the midst of an elevated, hilly region about 2060 feet above the level of the Gulf, on the San Saba river, about two miles from its source, in latitude $23^{\circ} 20'$ west, and like Phantom Hill is near the eastern border of the "Llano Estacado." A small stream originates from the base of the river hill, a short distance above the fort and running around between it and the river, expands into a large lagoon, and then discharges its water by a narrow, irregular channel, into the river below. The fort is five hundred yards from, and about one hundred feet above the level of the river, which flows through sever-

* Med. Stat. U. S. A. As't Surgeon A. B. Hasson, 1853, p. 375.

al lagoons and bodies of sluggish water, filled with aquatic plants and lies in a valley about a mile in breadth and which extends some twenty miles above its present source. Geologically, the surrounding country consists of tertiary and cretaceous formations: its surface is frequently intersected with dry ravines, which appear at some former period to have been the beds of water courses; on some of the hills, all of which are very sterile, are a few stunted live and water oaks. The soil is highly calcareous and composed of lime, with an admixture of decomposed vegetable and animal matters. In the valleys and along the water courses only, it is rich and there produces abundantly.

The prevailing winds during the hot months, are from the south and south west across a dry, sterile country. The period of the greatest rain is during the spring months, but to this, however, there are exceptions. The Post Meteorological Register shows the mean annual temperature for 1854, to have been $63^{\circ} 98'$, and for the months of July and August $78^{\circ} 74'$ and $80^{\circ} 10'$ respectively, with a mean annual fall of rain of 16.77 inches.

The climate of this Fort is reported by Dr. Crawford to be mild, but subject, particularly during the winter months, to great extremes of temperature, the thermometer frequently indicating a difference of from 30° to 35° in the course of twenty-four hours. The relaxing and depressing influence of the high and long-continued temperature of the summer and fall months, upon the nerves and muscular systems, predispose to visceral engorgements, and inflammatory and bilious diseases.

During the summer and fall seasons, *malarial fevers both intermittent and remittent*, sometimes of an aggravated type, and in which bilious vomitings and purging are frequently present, prevail here.*

Fort Ewell.—This fort, or rather *camp* is situated on the west bank of the Nueces, at the point where it is crossed by the road from San Antonio, to Laredo, in latitude about $28^{\circ} 12'$ north, and longitude 22° west. At this place the river makes a turn partly surrounding an elevated portion of land, which slopes from a height of some twenty-five feet, above its ordinary level, to its

* Med. Stat. U. S. A., As't Surg. W. S. Crawford, 1853, p. 386.

swampy margin. The soil, which is argillaceous, is somewhat softened by the spring rains, but during the remainder of the year, is baked to stony hardness, and on this account incapable of cultivation. A few elms are found growing in the swamp, and its vegetation consists entirely of the different varieties of the cactus and acacia. Nearly surrounding the fort on both sides of the river, and in high water allowing egress only by the road leading to Eagle Pass, is an extensive swamp, partially overflowed at every rise of the river, and at times converted into a lake of many thousand acres; from this marsh the prevailing winds of summer blow directly on the fort. The water of the Nueces, particularly during freshets, is often highly charged with organic matters, and, without filtering cannot be otherwise than unhealthy. The army Meteorological Register shows the mean annual temperature at this post to have been $71^{\circ} 30'$; and for the months of July and August, $84^{\circ} 37'$ and $83^{\circ} 84'$ respectively, with a maximum of 100° , and an annual fall of rain of 34.58 inches.

From May, 1852, to March, 1854, nearly two years, the troops were encamped on the low land near the bank of the river, and from which they were more than once driven by its freshets, to return again on the subsidence of the water; here, without flooring for their tents, and subject to strong winds and hurricanes, which not only frequently blew them down, but sometimes actually into shreds; without proper food, and often without proper clothing, exposed to the searching "northers" of winter, the excessive heat of summer and malaria of the surrounding swamps; they suffered, as a matter of course, greatly from periodic fever, and diseases of the digestive organs. For the two years anterior to the first of August, 1854, there occurred in a command averaging 170 persons, 627 cases of periodic fever alone. The attacks of this fever we are informed by Dr. Head,* from whose report the foregoing medico-topographical history has been compiled, were seldom ushered in by chills; the convalescence was almost invariably slow, and attended with unusual debility, relapses being frequent and the tendency to recur at periods of fourteen and 21 days strongly marked. Below and to the east of this military station, down to near Corpus Christi, along the banks of the

* Med. Stat., U. S. A., p. 389.

Nueces, are rows of oaks and cotton wood trees, richly festooned with heavy mosses. The surface of the country adjoining, and for some distance back from the river, we are informed by Dr. Moses,† consists of a low arid plain, in some places covered with grass, musquite, cactus and clumps of oaks. The heat of this region during the summer is rather excessive, the thermometer in the shade, at 3 o'clock in the afternoon ranging from 90° to 102°. Rain falls at Fort Merrill, and perhaps throughout this district every month in the year, but in greatest quantity during the month of May. Storms during the spring and summer, accompanied with thunder and lightning, frequently occur. The winters are mild; snow very rarely ever falling, and then not to the depth of more than an inch, and soon melting. The mercury sometimes in December or January under the influence of a norther has been known to descend as low as 22°, at which time thin sheets of ice were formed. The farmers raise corn, a few sweet potatoes and melons. With the exception of a large blue grape, which grows in the river bottoms, particularly in the vicinity of Fort Merrill, there are no other wild fruits. Throughout this region, wherever troops have been stationed, as at Forts Ewell, Merrill, or camp Santa Gertrude, or settlements exist, and there is one of some twenty families opposite Fort Merrill; after the subsidence of the water of the May and June floods in the Nueces and its tributaries and which leaves their recently overflowed bottoms, particularly the lower portions of the former, filled with decomposing organic materials under the influence of a tropicoid summer's sun, malarial fever prevails extensively, and at times, in some of these, of rather an aggravated character.

The Rio Grande.—This river, the largest with the exception of the Mississippi, that discharges its waters into the Gulf of Mexico, originates in the Rocky mountains nearly under the thirty-eighth parallel and thirtieth meridian. It first descends to the south, then turns to the south east, and finally empties into the Gulf nearly under the twenty-sixth parallel and twentieth meridian. Its lower half constitutes the dividing line, between the United States on the north and the Mexican States of Tamoulipas,

* Med. Stat. U. S. A. Reports, As't Surg. Israel Moses, 1854, p. 352.

New Leon, Coahuila and Chihuahua on the south. According to Dr. Drake upon the authority of Dr. Grigg, and upon the reports of some of the United States Army Medical Officers, it is a broad shallow, rapid stream made up of an accumulation of mountain torrents eminently alluvial, and abounding in rapids, sand bars, and snags. Although its banks in many places are not more than ten feet high, its breadth of channel in its upper half is so great that its water scarcely ever rises sufficiently high to overflow them. It has but few tributaries, and in its descent loses so much of its water by evaporation and infiltration, that its depth rather diminishes than increases with its progress; thus reversing the law that governs the Mississippi. Some of the authors of the few topographical descriptions we have met with of this river, speak of a *lower*, *middle* and *upper* Rio Grande. These divisions, however, although not very clearly defined, are generally understood to extend, the first from its confluence to Fort Duncan, or the mouth of the Rio Pecos; the second or middle from the Pecos to El Paso; and the third or upper from El Paso to its source. The average width of the lower portion is from 150 to 200 yards; that of the middle, although but little narrower, from the loss of the Pecos, has much less volume of water, and near El Paso, in long droughts, by absorption, almost entirely disappears. Its upper portion is generally from seventy to eighty yards in width and very rapid. Its banks are skirted almost throughout its entire length, with the pecan, the cotton wood, and other forest trees; near Camargo with the musquite and a stunted species of locust, intermixed with ebony, in other places willows, canes and grass.

From the first of May to the last of July, its volume of water, from the summer rains, and the melting of the snows on the mountains further north is greatly increased; during the annual flood, its water, always more or less turbid, is much more so, and that used for irrigation, always leaves a heavy deposit, which is thought to enrich the land greatly upon which it settles. Besides the substances mechanically suspended in its water it is said to hold in solution, the salts of calcium, sodium, potassium, and magnesium, and to be at times strongly impregnated with sul-

phuretted hydrogen gas.* Opposite Fort Brown, where the river is low, it is so strongly impregnated with sulphur as to be extremely unpalatable, and on this account alone almost unfit for use.† Its water is reported to be annually drank by more than sixty thousand persons, and although by some considered entirely healthy, is generally believed, on account, perhaps, of the mineral ingredients, and organic vegetable remains, it contains, to produce in an unfiltered state, particularly in those unaccustomed to its use, derangement and diseases of the digestive organs.

Its Tributaries.—Among these on the south may be mentioned the San Juan or Salinos, the Sabinos and the streams all originate from the eastern spurs of the Mexican Cordilleras, or Sierra Madre Mountains, and, as a matter of course, discharge their waters into the Rio Grande. Upon the waters of the first, the Salinos, are situated the towns of Bueno Vista, Saltillo, and Monterey; upon those of the second or Sabinos, Santa Rosa and Monclora; and upon a small tributary of the third, the city of Chihuahua. Those on the north are the Rio Los Moras, the San Pedro and the Rio Pecos. The first of these, the Rio los Moros originates, in full volume near Fort Clark, is not more than forty feet wide and flows off southeast to the Rio Grande, without a tributary. Its banks are deeply shaded with live oaks, pecans and elms, which together with many varieties of shrubs and vines make up a dense and luxuriant undergrowth.‡

The second, the San Pedro, originates within the table lands of Texas, west of the county of Kimball and descending with a rapid current and bearing almost due south, enters the Rio Grande, about ten minutes west of the twenty-fourth meridian; on its banks are occasional small groves of pecan, live oak and sycamore trees, and in its bottoms an abundance of wild plums and muscadine grapes.§

The third, the Rio Pecos, arises in the Rocky mountains a little east of the city of Santa Fe, after leaving the flanks of the Sierra Blanco, it descends east of the Guadalupe mountains through the "Llano Estacado," in a south easterly direction, to its confluence. It is a very muddy, rapid river, with an average

* Med. Stat., p. 423.

† Ibid, p. 428.

‡ Med. Stat. p. 190.

§ Ibid p. 191.

width of about sixty feet. Along its banks which are almost vertical are more or less fruit trees, and shrubbery, similar to that along the banks of the Rio San Pedro.*

The Valley of the lower Rio Grande extends from the shore of the Gulf to near the mouth of the Rio Pecos. From a little below the twenty-ninth parallel of north latitude, "it presents a general aspect of levelness, with tracts of swamp and some small lakes of salt water. In general its soil is not deep, and in some parts so poor and sandy, that the country is almost a desert. Prairies are common, the forests are thin and composed of stunted trees; the prickly pear invests the surface, and every where good water in the form of springs and streams is wanting."† In this region, which corresponds with the "Tierras Calientes" or hot countries of the Mexicans, are situated Matamoras, Monterey, Meir Camargo and the Prindeo del Rio Grande, and Forts Brown, Ringgold Barracks, McIntosh and Duncan. The middle portion of the valley extends from the lower to Fort Bliss. On the north of the Rio Grande from the near approach of some flank ranges of the Sierra Guadalupe, under the names of Apache mountains and horse-head hills, the valley is very narrow. South of the river it is much wider, and with the exceptions, of the valleys entering the Rio Grande from this direction is throughout more or less hilly or broken. From the "Bolson de Mapimi" a dry and hot valley some three thousand five hundred feet above the level of the Gulf, northward to the vicinity of the city of Chihuahua, and thence north to the settlements of the El Paso, the country gradually rises to the height of upwards of four thousand feet. Opposite to El Paso (Fort Bliss) the mountains on the east and west close into the river and diminish the head of the valley here to eight or ten miles; these mountain ranges to the north of this point, again diverge to the east and west of the Missilla country, giving to the valley of the upper Rio Grande, particularly on the west as high probaby as nearly opposite Santa Fe, considerably greater breadth than it has opposite to, and on the north for some distance below Fort Bliss. The accumulation of heat by radiation from the surface of the elevated valleys and dry sandy plains

* Ibid p. † Drake Vol. 1, p. 153.

lying to the south and southeast of El Paso, give to this portion of the valley a mean summer temperature of upwards of 84° , nearly as high as that of the lower Rio Grande.

As there are elevated localities and districts within the Torrid Zone, in which are found the climate and productions of the Temperate Zone; there are also within the latter, districts and localities in which the climate and productions, both animal and vegetable, resemble very nearly those of the former. Upon this subject, and probably in elucidation to some extent of the character of the climate of a portion of the "tropecoid" region of the valley of the Rio Grande; we are informed* that when the almost constant wind of the lower Rio Grande, the southwest, changes to the true South, it brings from the regions over which it blows a hot, dry atmosphere, which at least during the time of its prevalence renders its climate more desert like than tropical.

Fort Brown.—This fort stands on the north bank of the lower Rio Grande, in latitude $25^{\circ} 54'$ north, longitude $20^{\circ} 30'$ west, adjoining the town of Brownsville and opposite the Mexican town of Matamoras. The fort and town are built upon an alluvial soil, at an elevation of two feet above ordinary high water mark and about fifty feet above the level of the Gulf; and from which it is distant, on a straight line, about thirty miles. The surface of the ground upon which the fort and town are situated presents slight elevations and depressions. Just above and adjoining the town there is one of those depressions, there is also another one below the garrison. At high tides in the river, and after heavy rains, these depressions are submerged and the water settles around the town, when this happens, what is called "Washington Square" on the northwest border of the town, is nothing but a pond. Below the fort there is a lagoon, which is connected with the river, by a ditch, at low tides of the river, this communication ceases to exist.

Brownsville contained in 1853, about 3500 inhabitants a majority of whom were Mexicans. Before this time there was no regular system of drainage, and the water after the rains was allowed either to run off as best it could, or remain and be

* U. S. A., Meteorological Register, Report of Louis Blodget, Esq., p. 706.

removed by the slow process of "absorbition and evaporation." Since then we understand there has been introduced by the city authorities, a partial system of drainage and paving, with the result of the first as a sanative measure, or to what extent the latter has been carried, we are not informed. The dwellings of some of the white citizens have cisterns, and to them and their friends the rain water is truly a luxury. There has also been recently constructed within the fort, three small cisterns for the use of the garrison.

This Post, Brownsville and Matamoros, together with all the Mexican ranches within their immediate vicinity, suffered during the summer and fall of 1852, with intermittent and remittent fever. In 1853, whilst the garrison, Brownsville and Matamoros, suffered with yellow fever, in the latter part of the year, of rather an aggravated character, the neighboring ranches are reported to have entirely escaped.* The first case of this epidemic occurred on the 23d of September, and appears to have been clearly of domestic origin, and the last shortly after the first frost about the 20th of December. The total number of cases treated in the garrison was 254, of which, on account of non-acclimation and other causes, fifty died, nearly one-fifth. Before the commencement of this epidemic, the barometer showed the mean atmospheric pressure for the month of August, to be 30.16 inches, and during its prevalence with slight oscillations, ranging from 29.72 to 30.52, the result probably, of the unusual occurrence of several "northers"; returning again in December, as the disease gradually declined, and finally ceased, to 30.16 inches.

The Army Meteorological Register, for this year, shows the mean monthly temperature for the months of June, July, August, September, October, November and December, to have been respectively $82^{\circ} 06'$, $84^{\circ} 45'$ and $82^{\circ} 76'$ with a maximum in July of 94° , and a mean summer temperature of $83^{\circ} 09'$ and for September, October, November and December, $78^{\circ} 91'$, $76^{\circ} 11'$, $69^{\circ} 37'$ and $62^{\circ} 26'$, with a maximum in September of 89° and a mean fall temperature of $73^{\circ} 13'$. It also shows for the months of June, July and August 1.70, none, and 3.10—4.80 total inches of rain for the summer and for September, October, November and December,

* Med. Stat. U. S. A., Report of Surg. S. P. Moore, 1854, p. 353.

8.00—7.77—1.30 and 0.65—Total, 17.05 inches for the fall, with an annual fall of 26.80 inches; four-fifths of which 21.85 fell during the summer and fall. From these dates it appears that this epidemic commenced on the 23d, of September under a mean temperature, for the months of August and September of $84^{\circ} 81'$ and $80^{\circ} 05'$ (total $82^{\circ} 43'$) with 3.10 and 8.00 (total 11.10) inches of rain; continued through October and November under a temperature $71^{\circ} 11'$ and $69^{\circ} 37'$ (total $80^{\circ} 22'$) and 7.75 and 1.30—total 9.05 inches of rain and ceased to prevail for the want of heat and moisture after the first frost about the 20th of December.

During the fall of 1858, yellow fever of a very malignant and unmanageable character again prevailed here. The first case occurred in Brownsville, on the 22d of August and in the garrison about the 1st of September; it rapidly became epidemic and ceased to prevail about the last of October.

The army meteorological register for this year shows the mean annual temperature to have been $73^{\circ} 63'$, and the mean monthly temperature for the months of June, July and August, to have been $82^{\circ} 81'$, $84^{\circ} 64'$ and $84^{\circ} 81'$ respectively, with a mean summer temperature of $84^{\circ} 08'$, with a maximum of 98° , and that for the months of September, October and November respectively, to have been $88^{\circ} 05'$, $77^{\circ} 88'$ and $62^{\circ} 89'$, with a mean Autumnal temperature of $73^{\circ} 61'$, and a maximum of 94° . It also shows the mean monthly fall of rain for the months of June, July and August to have been 5.15—0.70—and 2.75 respectively, with a total for the summer of 8.30 inches, and for September, October and November 5.77—2.75—0.45 respectively, with a total for the fall of 8.97 inches, with a mean annual of 24.36 inches: of which, two-thirds 17.27 inches fell during the summer and fall. Dr. Watson gives for this year the mean summer and autumnal temperatures at $82^{\circ} 45'$ and $80^{\circ} 91'$, with a mean Hygrometer for the first of $75^{\circ} 24'$, and for the latter $75^{\circ} 41'$, with a mean atmospheric pressure throughout the entire period of 30.03 inches. From the foregoing statements and meteorological observations, it appears this epidemic (1858) commenced under an average mean temperature for the months of August and September of $82^{\circ} 43'$, with 2.35 and 5.77, total

8.22 inches of rain; continued through October under a temperature of 77° $88'$ and 2.75 inches of rain; and ceased to prevail about the first of November, for the want of heat and moisture, under a mean temperature for October of 62° $89'$ and 0.45 inches of rain.

The total number of cases that occurred in the garrison during the prevalence of this epidemic were ninety-two; of which forty-one died. Of the ninety-two cases, fifty-eight had black vomit being over sixty-three per cent. Of the fifty-eight cases of black vomit, twenty recovered, being thirty-four and a half per cent. of recoveries. In this epidemic, the change of color before death was very remarkable. Some being perfectly yellow, whilst others were almost black. There were also, frequent sudden congestions of the head, the stomach, bowels and kidneys.* If it is true, as is contended for by Dr. A. P. Merrill and others,† that genuine black vomit in yellow fever never occurs except as the result alone of a high state of inflammation bordering upon gangrene of the coats of the stomach, and is always fatal: then as a matter of course, Dr. Watson was mistaken in the nature of the matter vomited in the above mentioned twenty cases that recovered; but as it is, we believe, a generally admitted fact, that black vomit has frequently occurred in cases of yellow fever and the patients recovered, brings us to the conclusion that he was not mistaken, and that the matters discharged in these cases were true black vomit, and precisely such as occasionally occurs in malarial fever, without either of the above mentioned complications.

Matamoros.—This town stands on the south bank of the Rio Grande; opposite and below it, the river is narrow, muddy, rapid and eddying, resembling very much the Mississippi; the country on each side above and below is level and sandy, with groves of small timbers, and an abundant growth of the prickly pear. Immediately above the town, the river turns to the east and after making a bend of many miles, returns below the town on the south, so near as to be in sight. In this bend there is a small permanent lake or pond, which occasionally in river floods

* Med. Stat. U. S. A. Report Ass't Surg. A. F. Watson, 1859, p. 182.

† Memphis Medical Recorder, Jan. No. 1854, p. 163

extends its area to the edge of the town. To the west of the town there is a larger lake, about two miles long, which becomes dry in the month of August. To the north and south of this lake, the ground is a little more elevated than that on which the town is built and covered with small trees. Upon the whole, Dr. Drake, from whose work the above topographical description is condensed, concludes there is but little drowned or swampy land in its vicinity, and that it is not liable to yellow fever. From all that we have been able to gather in relation to the prevalence of fevers here, it appears that it has ever since its first settlement been subject to all the varieties and grades of intermittent and remittent fever, and that yellow fever, if not in other years, prevailed here in 1841, 1845 and again in 1853.*

Ringgold Barracks,—This Fort, at an altitude of about 122 feet above the level of the Gulf, stands immediately on the north bank of the Rio Grande, opposite the town of Camargo, in latitude $26^{\circ} 24'$ north, longitude $22^{\circ} 03'$ west. The river opposite the barracks, is two hundred yards wide, exceedingly crooked and impeded by sand bars. The soil of the surrounding country is sandy and miserably poor, covered with cactus, dwarf musquite and a few ebony trees. A few hundred yards immediately north of this post, is Rio Grande City, which in 1854 contained a mixed population, chiefly Mexicans, of nearly six hundred souls. Although the winters are mild except when a norther blows, this is considered, and probably is, the hottest post on the Rio Grande, the heat being constant for more than nine months of the year and excessively prostrating to the mental and physical faculties.

In 1854, rain fell every month in the year, except April, in greatest quantity in June; swelling the Rio Grande and overflowing its banks and to a considerable extent the adjoining country on both sides down to its mouth. The mean annual temperature, for this year as shown by the post meteorological register was $73^{\circ} 29'$, and for the months of June, July and August, respectively $84^{\circ} 30'$, $82^{\circ} 65'$ and $83^{\circ} 01'$, with a maximum in May of 102° . The winter was very mild, frost having

* Med. Stat. U. S. A. p. 333.

formed but, two or three times. The summer and autumn were unusually hot and dry. During the fall and early winter a malarial fever of unusual severity prevailed, attacking a large majority of the garrison and nearly every soul in the adjoining village. It appeared in every degree from an ordinary fever and ague to a low congestion form of remittent closely approaching yellow fever. At Camargo, on the Mexican side, four or five miles distant, nearly one third of the population died, and more than thirty in Rio Grande city; along the banks of the Nueces and the Rio Grande, few escaped between Larado and Brownsville. In the interior at Monterey, Saltillo and Mier, the disease was comparatively mild, whilst at Corpus Christi it was very severe, and attended with black vomit. The symptoms detailed by Dr. Moses as present and to some extent characteristic of a majority of the cases of this epidemic, besides a general tendency to congestion, were restlessness, excruciating pain in the head, limbs and breast, delirium, yellowness of the skin, sometimes approaching to a mahogany color, with great irritability of the stomach, attended with vomiting of a greenish yellow matter. Convalescence was slow, the lips retaining their exsanguine appearance, and the complexion its dull muddy yellow hue for a long time. Relapses were very frequent, chills and fever recurring without regularity, every two, three, seven, fourteen or twenty-one days, especially after the slightest fatigue.*

Fort McIntosh.—This post stands on the north bank of the Rio Grande at an elevation of about 806 feet above the level of the Gulf, in latitude $27^{\circ} 31'$ north, and longitude $22^{\circ} 21'$ west. The plain upon which it is built has an elevation of about fifty feet above low water mark, and extends back from the river about two miles, where it is interrupted by a range of low hills, running parallel with the same. The soil is of a loose sandy character, containing a small portion of clay, with a depth of from fifteen to thirty feet, resting upon a base of cretaceous lime stone. Owing to the bad character of the soil, the small quantity of rain, and the rapid evaporation, caused by the almost constant prevalence of southeastwinds, the flora of its vicinity is very limited; only

*Med, Stet. U. S. Army report of Asst. Surg. Israel Moses, 1854, p. 357.

such plants and trees are found growing here as can best resist the continued action of the above named causes; of the former there is a great variety of the cacti, the most common of which is the prickly pear, and of the latter, the principal one, with the exception of a few scattering willows, ash and mulberry, trees along the river bank, is the musquito, a species of the acacia.

In the soil made by deposits from the river, Indian corn can be raised in small quantities, by irrigation, but wheat, rye, oats and sugar cane cannot be grown. The seasons here are considered by Dr. Perin, as consisting of but two, summer and winter.* The former usually commences in March, and ends in November, during which period a high temperature generally prevails, the thermometer ranging between 75° and 107° in the shade; although the mercury has been known during the prevalence of a norther, to descend as low as 17°, the winters are, as a general rule, very mild. Dr. Perin, from whose report the above medico-topographical description is condensed, informs us, that during a period of three years' service at this Post, he never met with a single case of malarial fever, that did not have its origin somewhere else, and that the citizens of Lardo, in its immediate vicinity, enjoyed a like immunity from malarial diseases.†

Fort Duncan.—This fort stands on a dry, elevated plateau on the north bank of the Rio Grande, near Eagle Pass, about fifty feet above the bed of the river, and 1460 feet above the level of the Gulf, in latitude 28° 43' north, longitude 23° 30' west. The plain upon which the fort immediately stands, terminates towards the river by a precipitous fall of from twenty to thirty feet, to the level of a lower sandy plain or river bottom of about half a mile in breadth, covered with bushes and grass, and subject at high tides of the river to overflow. The soil around the fort is sandy, covered with fine grass, scattering musquite trees, and a tangled mass of thorny bushes known as "chapparel." It is open to the south and southeast to the summer winds, and protected on the south by a range of hills from the northers. The post meteorological

* The division of the seasons adapted in this essay is that of Sir James Clark including under winter the months of December, January and February; under spring, those of March, April and May; under summer those of June, July and August; and under autumn September, October and November. See Clark on Climate p. 66.

† Med Stat. U. S. A., p. 360.

logical returns, show its mean annual temperature for the year to be $70^{\circ} 55'$ and for the months of June, July and August $82^{\circ} 81'$, $84^{\circ} 67'$ and $85^{\circ} 94'$ respectively; with a mean annual measurement of rain for the same period of 22.20 inches.

From the foregoing medico-topographical description condensed from the reports of Drs. Cooper* and Myers† this post appears to be free from all local causes of disease and the entire exemption of the command stationed here from malarial fevers, fully substantiates the supposition that none exist; in fact malarial diseases originating elsewhere, are reported to be benefited by a removal or residence here.

Fort Bliss. This fort stands in the immediate river valley, on the north side of the Rio Grande, nearly opposite to the town of El Paso, in latitude $31^{\circ} 46'$ north, longitude $29^{\circ} 30'$ west. The valley opens here to the southward, and the neighboring high lands are generally destitute of timber. The post meteorological register for 1850 shows a mean annual temperature of $63^{\circ} 17'$, and for the months of June, July and August, $85^{\circ} 26'$, $86^{\circ} 12'$ and $81^{\circ} 77'$ respectively; with a mean annual measurement of rain of 11.21 inches. "The settlement of the El Paso, extends from the falls of the Rio Grande on the north, to the Presideo on the south, a distance of twenty-two miles, and in a continuous orchard and vineyard embracing within its ample area, an industrious population, chiefly Spanish, unmixed with Indian, of at least eight thousand.‡ The whole settlement is irrigated by water taken principally from the Rio Grande."

In the valley to the south of the Rio Grande, above and to the north-west of Matamoras and to the south of Fort Bliss, and in which are situated Santa Rosa, Monclora and the city of Chihuahua, the cultivation of sugar-cane, cotton and indian corn, together with all other agricultural operations, are carried on by irrigation. The surplus of water used for this purpose is generally allowed to run on the lower lands, and thus creates permanent ponds and swamps. There are marshes, says Dr. Drake, upon the authority of Dr. Gregg, which appear to have been produced in this way, below Presideo, more extensive ones about

† Med. Stat. U. S. A. p. 364.

* Med. Stat. U. S. A. p. 179.

‡ Drake, Principles Dis. Int. Val. North America, Vol. I. p. 155.

Santa Rosa and many of considerable size in the vicinity of Monclora. As regards the prevalence or particular type of the fevers of this region, we know but very little. At the Presideo, the town of Santa Rosa and the city of Monclora, Dr. Gregg, in October, 1846, found the natives suffering with chills and fever; but as neither of these localities, or the surrounding country naturally abounded in the conditions, to which, by observation, he had been led to ascribe autumnal fever, he very properly, we think, attributed its prevalence to malaria, generated under a burning sun, from the decomposing organic material contained in the above mentioned artificial ponds and swamps.

Having in the preceding medico-topographical description of Texas, the Rio Grande, its tributaries and valley, been necessarily compelled to embrace a portion of the adjoining territory of Mexico, no less on account of topographical simularity, than to enable us to show the connection existing between the surface of a country and its endemic fevers, we will now endeavor to reproduce (in relation to the origin and prevalence of malarial fever) some of the principal facts contained in the foregoing medico-topographical histories, and then dismiss this part of the subject. At Fort Worth, on the waters of the Trinity, latitude $32^{\circ} 40'$ north, with moisture and vegetable materials in abundance, under a mean summer temperature of upwards of 80° , we find malarial fever of the intermittent and remittent types annually prevailing. At Phantom Hill, situated in the midst of the elevated, hilly region on the Brazos, latitude $32^{\circ} 30'$ north, with nearly as high a mean summer temperature, $79^{\circ} 83'$, as that of Fort Worth, with very little moisture and no ponds or swamps, the fever never prevails.

At *Fort Ewell* on the bank of the Nueces, latitude $28^{\circ} 12'$ north, almost surrounded by swamps, subject to frequent overflows by the river, and under a mean summer temperature of $83^{\circ} 64'$, the fever was very prevalent. They also further show, at the interior stations and localities of Fort Brown, Ringgold Barracks, Matamoras, and in some of the surrounding villages and ranches, with a sufficiency of moisture and organic material, under a mean summer temperature, ranging from 83° to 85° ,

that malarial fever of domestic origin, to the "manor born," of every grade and type, from simple intermittent to the most malignant yellow fever prevail. Whilst at Fort McIntosh, latitude $27^{\circ} 31'$ north, with a sufficiency of water, 18.66 inches of rain annually, two thirds of which, 12.39 inches fell during the summer and fall months, with a higher summer temperature, $85^{\circ} 91'$, than Fort Brown, without vegetable materials, being surrounded by an almost desert region, and not subject to overflow by the river, malarial fever never originates. If then malarial fever, particularly that type recognized as yellow fever, ever originates as the result of certain properties of moisture and organic materials, under a high temperature, over 80° in localities where it prevails, then after an overflow in the Nueces or Rio Grande, we ought not to be surprised at its origin and prevalence in cities and villages along those streams, than at its origin in the valley of the Lower Mississippi or at Charleston, in South Carolina, in the West Indies, or on the coast of Guinea, the British Indies, or anywhere else, where the necessary elements of climate are present. That the presence of vegetable materials undergoing decomposition are absolutely necessary for the production of any of the types of malarial fever, we think is very clearly shown in the medico-topographical history of Fort Duncan. This post with as great an amount of moisture, 22.20 inches of rain annually, and nearly as high a mean summer temperature, upwards of 84° , as that of Ringgold Barracks, with but very little, if any, vegetable materials, and not subject to inundations from the river, is so completely exempt from malarial fever, that those suffering from intermittent and remittent fever, and other malarial diseases, are reported not only to be benefited, but actually cured by a removal to and residence at this post.

New Mexico.—This Territory is bounded on the south by Texas, and the Mexican States of Chihuahua and Sonora, on the north by the territory of Colorado, on the east by Western Texas and the Indian Territory, and on the west by Arizona; and is naturally divided into three great regions, the eastern, comprehending the Llano Estacado, the middle, the

valley of the Rio Grande, and the western, the country beyond the Sierra Madre mountains. Its general surface consists of a succession of mountain ridges and narrow valleys, running nearly from north to south, and which, from the craters of extinct volcanos and beds of scoriæ observed in many places, probably owe their peculiar structure and directions to volcanic action. In many of these mountain ridges are found, more or less, gold, silver, mercury, copper and galena. The silver mines of the Sierra de los Organos, near Fort Fillmore, and in which this metal is found in the form of a sulphuret, united with galena, were in 1853 profitably worked. The whole territory yields a sparse growth of stunted cedars and artemisias, some of the mountain ridges, long leaf pine, small white oaks; whilst along the banks of some of its principal streams, as the Rio Puerco, Rio de Galisteo and Rio Grande, are occasionally found small groves of cotton-wood. In his geographical atlas, Mr. McNally represents some of the valleys as being very well adapted to grazing, and in which mules, sheep, goats and cattle abound, and others, particularly that of the Rio Grande, as highly productive, yielding fine crops of Indian corn, wheat and other grain; in some portions, peaches, apples and grapes grow luxuriantly. But notwithstanding this favorable account of Mr. McNally, we cannot, from the reports of Langworthy,* and Hammond,† regard New Mexico, as a whole, in any other light, than a great mountain desert, almost entirely unfit for the residence of man in a state of civilization.

The mean annual quantity of rain, that falls throughout the country, is very small, not averaging, perhaps, more than twelve inches, and in the neighborhoods around Forts Fillmore (Mesilla), Conrad (Santa Barbara), and Socorro, if not others, probably not more than half this amount. Throughout its southern portions very little dew falls, and south of Fort Craig, latitude $33^{\circ} 26'$ north, although there occur, during the winter months, slight snows, on account of the great dryness of the atmosphere, they almost immediately melt. From the fact that more than three-fourths of all the rain falls between the 1st of

* Med. Stat. U. S. A. p. 414.

† Med. Stat. U. S. A. p. 419.

July to the last of November (the rainy season), is probably the reason, more than its actual deficiency, that all agricultural operations have to be carried on by means of irrigation. The surplus water from the canals, used for this purpose, like that in the Mexican settlements, already mentioned south of Fort Bliss, instead of being properly drained off, is frequently suffered to run on the low lands, and give origin to ponds and swamps. These swamps filled with decomposing vegetable materials under a high temperature, as a matter of course, during the fall months, become prolific causes of malaria and fever.

In some portions of the territory, about Socorro for instance, where the elevation is nearly six thousand feet above the level of the Gulf, the electrical tension of the atmosphere, at times, is very great, especially after the fall of rain or snow: the great dryness of the air, the large quantities of salines the earth contains, together with the rapid evaporation on such occasions, surcharge the atmosphere with positive electricity, which is sometimes strikingly exhibited by the display of zigzag lightning and loud thunder, without rain; these electrical phenomena frequently begin and end with an earthquake. In the western part of the county of Socorro, not far from Fort Conrad, there is a mountain, from the base of which flow several warm springs, which evidently is, at times, under the influence of subterranean heat, as snow melts from its surface much sooner than it does from other parts of the same ridge, of more than two thousand feet less elevation. There was in the vicinity of this mountain, from the 11th of December, 1849, to the 14th of February, 1851 (15 months), twenty-eight earthquakes, the most of them severe and generally accompanied with a rumbling noise. From the great transparency of the air of this particular region, clouds, it is said, can be seen two hundred miles off, whilst at other places, as at Los Vegas, from the admixture of *mica* with the soil, the *mirage* is very great.

The water of the rivers and smaller streams, except during spring freshets, when they are known to contain in solution various deleterious ingredients, are thought to be generally of a healthy character; that of the springs, both cold and thermal, particularly the latter, from similar causes, besides being un-

palatable to those unaccustomed to their use, frequently produce disorders and derangements of the digestive organs.

Santa Fe.—This city, the capital of this territory, stands at an elevation of nearly seven thousand feet above the level of the Gulf, in latitude $35^{\circ} 41'$ north, and longitude 29° west. It is situated at the base of a snow clad mountain, on the north bank of a beautiful little stream, about forty miles from where it empties into the Rio Grande. Its population, including that of several surrounding villages embraced within its corporate jurisdiction, amounts to nearly nine thousand. Dr. Drake, upon the authority of Dr. Gregg, informs us (vol. 1, p. 155); that from topographical peculiarities, ponds and marshes, and the diseases, periodic fevers, to which they give origin elsewhere, are almost unknown here, and that as great a degree of good health and longevity, are attained and enjoyed by the inhabitants of this city, as by those, perhaps, of any other part of the world.

In proceeding from Santa Fe down the Valley of the Rio Grande, we meet with but very few of the reported causes of malarial fever, until we reach the neighborhood of Fort Craig, where the river bottom appears to present all the necessary elements for its production. From this point south to Fort Thorn, with no difference whatever in the geological structure of the Valley, we find malarial fever fully developed and of a high grade.

Fort Thorn.—This fort is situated about one mile west of the Rio Grande, in the neighborhood of the Mexican village of Santa Barbara, and opposite the Irannoda del Meurta, from which at a distance of about five miles on the east, it is separated by the river and a range of high mountains; it is 201 miles south west of Santa Fe, and fifty-one miles north of Fort Fillmore, with an elevation above the Gulf of Mexico of 4,600 feet. Its immediate site is about one hundred yards west of the river bottom, upon ground composed of clay and sand, the former being uppermost; latitude $32^{\circ} 47'$ north, longitude $30^{\circ} 20'$ west. To its westward, about two miles, commences a *Llano* or *mesu* which extends back, partially broken by a few undulating hills, to the distance of nearly thirty-five miles; the soil between the fort and this mesu

is sandy, and covered with a low growth of *prosepsis* and *artemesias*. Opposite the fort, the Rio Grande makes a considerable bend, leaving exposed to the right a crescentic flat, interspersed with pools of standing water, partially shaded by trees of the cotton wood species, and subject during the spring freshets of the river, to complete inundation. This flat or bottom, during the months of June or July (the hot season), when the mean monthly temperature ranges from 80° to 82° Fahrenheit, with an occasional daily maximum of from 108° to 110°, presents to the action of the sun a surface of oozy mud covered with green slime, and filled with decomposing vegetable materials. The buildings constituting the fort, are within a stone's throw of this malarial hot-bed, and unfortunately so placed as to enable or rather force the garrison, for at least five months of the year, to breathe its pestiferous vapors.

In July, 1855, remittent fever commenced and prevailed here until about the 1st of September, when intermittent fever appeared to take its place. During this month, out of a command of ninety men, seventy-eight were sick with remittent fever; the remittents this year were never preceded by a chill, and in a majority of the intermittent cases, the functions of the liver were very much deranged. During the summer and fall of 1858, both intermittent and remittent fever of a very aggravated character, prevailed to a considerable extent. In the intermittent, the cold, hot and sweating stages were very accurately defined. Later in the season, gastric and biliary complications were present, with a strong tendency to inflammation of the lower bowels. In the chronic intermittents, engorgement of the spleen was also frequently present.*

Dr. Henry observes, that at this, the sickliest Post in New Mexico, if the cases were not properly treated, nearly every man, after a series of attacks of ague and fever, would be seized, as the Mexicans above and below us are, with a congestive type of fever, and die.† On account of the continued prevalence of intermittent and remittent fever, together with the malignant character of some of the cases, the Secretary of War, at the request of the Surgeon General, in 1858, ordered a permanent evacuation of

* Med. Stat. U. S. A. p. 224.

† Med. Stat. p. 222.

this Post. South of this military station, Donna Ana Cruces, Fort Fillmore and the Mesilla Valley, where vegetable materials are abundant, after the drenching rains of July and August, under a temperature sometimes reaching 107° in the shade, become during the fall, great centres of malarial fever. To the westward of this region, along the whole length of the thirty-second parallel of north latitude, across the territory of Arizona to the mouth of the Rio Grande, wherever settlements are found, these malarial fever prevails.* Notwithstanding the great elevation, and diminished atmospheric pressure, throughout a greater portion of this territory, and the mountainous regions, to its north and north-west, whenever we find moisture and vegetable materials in certain proportions, under a mean monthly temperature for two months, of 60° and upwards, there we find malarial fever.

In proof of this assertion, we beg leave to refer to the very interesting reports of Drs. Bartholow† and Brewer,‡ and in which we are informed, that at elevations ranging from five to seven thousand feet above the level of the ocean and clearly within the upper or cold region of meteorological writers, there prevailed amongst the troops (Army of Utah) on Horn's Fork, and at Camp Scott and fort Bridger, on Black's Fork of Green River, Utah, during the summer and fall of 1858, and again in 1859, at Camp Floyd, in Cedar Valley, about forty miles south of Great Salt Lake, a paroxysmal fever, denominated by the residents of the country mountain fever, but in their opinion (and in which we fully concur) clearly of malarial origin.

Arizona.—This territory is bounded on the south by the Mexican State of Sonora, on the north by Utah, on the east by New Mexico, and on the west by Nevada and California. Its general surface which lies at an elevation of from one hundred to four thousand feet above the level of the Gulf of California, like that of New Mexico, consists of a succession of mountain ranges, having a general north and south direction. These mountain ranges, some of which, as those of Santa Rita near their rugged peaks, to the height of near twelve thousand feet, are separated from each other by level plains averaging from twenty to forty

* Med. Stat. U. S. A. Report of Surg. and Med. Dir. Wm. J. Sloan, p. 218.

† Med Stat. pp. 283-288-300-306.

‡ Med. Stat. p. 310.

miles in breadth. The plains some of which are inundated during the month of July, and which are void of every trace of vegetation, are left after the removal of evaporation of the water from their surfaces, covered with an extensive deposit of nitrate of soda, which, at a distance, gives to them the appearance of vast lakes; of these the most extensive are lake-like in appearance, and from the surface of which the mirage, probably greater than any other, is the Plaza de los Pimos. Its principal mountains are the Pinaleno and Magellan ranges. Its rivers are the Colorado of the West, the Gila, the De Lino, and their tributaries. They all originate within the Rocky Mountains, or some one of its numerous spurs or outlyers, and discharge their waters through the Colorado into the Gulf of California. The basin of the Res Gila, by irrigation, is said to produce cotton, wheat, Indian corn and garden vegetables. The Valley of the Santa Cruz extends north from the mouth of the Sonorita, a tributary of the Gila, to Tucson, the present territorial capital, and is, together with the whole surrounding country, during the fall months, subject to malarial fever. To the north and west of Tucson, is a desolate and desert-like region, comparatively worthless except on account of its mineral wealth. Along the rivers and in their valleys, are found growing ash, sycamore, cotton-wood, hack-berry, walnut and musquite; on the plains, live oak, white oak, musquite, iron wood, cedar and maple, and on the mountains, in great abundance, pine, cedar, fir, and spruce. In many of the mountains on the Gila and its tributaries, granular gold has been recently found in large quantities, and silver, lead, copper, antimony, graphite and alum abound almost every where. The silver, gold and copper mines were, in 1859, extensively and profitably worked. Some of the former are said to rival in extent and value, the most famous of Peru and Mexico.

Fort Buchanan.—This Fort is situated on a small tributary of the Rio Santa Cruz, in the midst of a mountainous region, at an estimated elevation of some 5,350 feet above the level of the Gulf of California, and about midway between the Rio Grande and Rio Colorado of the west, in latitude $31^{\circ} 40'$ north, and longitude $33^{\circ} 30'$ west. The immediate site of the fort, which

consists of a series of temporary buildings, scattered over a distance of half a mile, is on the western slope of an irregular plateau of about two miles in length, and from half to three-quarters of this distance in width. This plateau, the termination of a series of low broken hills on the north, is irregularly elevated some thirty or forty feet above the level of an adjoining swamp, and by which it is, at no great distance, on its eastern, western and southern sides, completely environed. This swamp or morass, consisting of alluvial deposits and extensive beds of decomposing vegetable materials, the result of the rank, forced vegetation of the hot season, is watered by several warm and cold springs, which running over its surrounding level surface, forms it into a great peat marsh, in which are several quagmires and filthy, stagnant pools. The southern extremity of this swamp, which has been, until very recently, kept constantly irrigated during the summer, for the purpose of cultivation as a garden, lies between two hills, which form a funnel shaped gorge, through which the prevailing winds of the year, the south and the south-west, blow the effluvia generated in it, under a temperature which sometimes reaches 107° in the shade, directly upon the inmates of the fort. The water used by the garrison is supplied by one of many springs of this swamp and although clear and palatable, is most execrable, being highly impregnated with calcareous salts and decomposing vegetable materials, becoming putrid upon standing, and producing diseases (diarrhœa and dysentery) of the digestive organs.

Although the winters here are cold, ice sometimes freezing half an inch thick, still the morning and evening air is agreeable and bracing, and notwithstanding the thermometer, during the months of June, July, August and September, frequently rises above 100° in the shade, on account of the cool breezes that are constantly blowing from the mountains, it is never oppressingly hot. Forty or fifty miles south of the high table lands, upon the southern edge of which this fort stands, and from which the descent into Sonora is very abrupt, we reach a tropical region, in which oranges and figs grow in great luxuriance, and where, every fall, fevers of a most pernicious

and congestive type prevail.* From topographical peculiarities, ever since the first occupation of this post, as might have been expected, the garrison have constantly suffered; but more especially from July to January with malarial fever, frequently of an aggravated character: from an attack of which, in 1858, not one solitary person escaped, with the exception of the sutler's employés and an old negro woman, who were protected from the influence of the marsh by a small knoll, which acted as a diverting screen against the carrying influence of the south-west wind.†

Fort Mohave.—This post stands on the east bank of the Colorado river, at Berle's crossing, near the head of the Mohave valley, in latitude about 35° north, and longitude $37^{\circ} 31'$ west. It is situated immediately on the edge of an elevated desert plain, seventy-five feet above the river. This plane, hemmed in by rocky, naked hills, forms a basin fifty miles long, by twenty in width, through which the Colorado winds its way forming the Mohave valley; a bottom, thirty-five miles in length and averaging one to four miles in breadth. The whole surrounding country, with the exception of this bottom, is a perfect waste, without either water or vegetation, and is characterized by excessive summer heat, extreme dryness, strong winds, hurricanes, sand storms and whirlwinds.

Although but little rain falls at this post during July and August, very heavy showers, accompanied with thunder and lightning, fall in the neighboring hills. From the melting of the snow on the mountains in June, if not earlier, the bottom lands of the Colorado and all its tributaries, are overflowed. The soil of these bottoms, when not mixed with too great a proportion of the *nitrate of soda*, and properly cultivated, are said to produce moderate crops of corn, beans, pumpkins and mellons.‡

From the head of the Gulf of California, eighty miles up to the mouth of the Rio Gila latitude $32^{\circ} 32'$ north, longitude $27^{\circ} 30'$ west, and for distances above this point, the valley of the Colorado averages from five to eight miles in breadth, and is bounded on either side by rocky barren mountains and sand hills,

* Med. Stat. U. S. A. Report Surg. Med. Director Wm. J. Stoan, 1859, p. 218.

† Med. Stat. U. S. A. p. 207.

‡ Med. Stat. U. S. A. p. 235.

which separate it from the immense surrounding deserts. The surface of this region as far as it has been observed, is reported to consist almost entirely of sand, and like that opposite Fort Mohave, is subject to sand, storms and hurricanes. Of the temperature of this region we know nothing,—but infer, after carefully examining the mean monthly and daily maximum temperature at Fort Yuma, California, situated in the midst of the great Colorado desert, two or three hundred yards to the west of the mouth of the Rio Gila, and comparing them with others, particularly those of the desert regions of Africa and India, that while it probably has the highest summer temperature of any military station ever occupied within the limits of the United States, it is surrounded by a region the maximum daily, and mean July temperatures of which, are as great, if not greater than any other part of the world.*

As regards the prevalence of periodic fever throughout this territory, or even at the military stations mentioned, with the exception of Fort Buchanan, we are not informed, but infer, if ever settled, from its high summer temperature, that whenever moisture and organic materials are found in sufficient quantities, and certain proportions, there malarial fevers will prevail. On the part of the United States, many of their military commands, in their efforts to occupy this territory, that of New Mexico, the Valley of the Rio Grande, Western Texas, and the Indian Territory, on account of the scarcity of vegetables, besides frequently giving to their fevers, a rather low type, suffered very much from diarrhoea, dysentery and scurvy, and continued to do so until comfortable quarters were provided, and a sufficient amount of vegetables issued in the ration.

Animals, Reptiles, Insects and Birds.—Of these we will only mention the following, which if ever met with at all, in any portion of the Southern and Southwestern States, during their first settlement, with the exception of tropecoid Florida, are now entirely extinct. The leopard, the South American lion or pama, the

* At Fort Yuma, the annual temperature is 73° 63' for the summer, 92° for the month of July, for two successive years, it was over 95°, with a single maximum, in 1856, at two and three o'clock, P. M., of 116° and 119°. In preceding years, the maximum daily, in this the hottest month, is reported to have frequently exceeded these measures from 8° to 16°. The temperature in the Oasis of Mourzouk, Sahara, Africa, is reported to range from 117° to 128°. (Med. Stat. U. S. A. Letter from Ass't Surg. H. K. Wirtz to the Surg. Gen'l, p. 457, and report of Louis Blodget, Esq., Army Meteorological Register, p. 684.)

Mexican lion, the tiger, tiger cat, the mustang or jackass rabbit; the hooded or horned rattlesnake, found on the sand plains of Arizona; the prairie racer, a long yellow snake; the coralito, a very small delicate snake, fatally poisonous; the lyphenous, or vinegrilla, this animal, when irritated, emits a strong odor of vinegar, hence its name, and is fatally poisonous; the escupion, or hissing spitting lizzard, believed not to be poisonous. In pools, near Fort Defiance, New Mexico, a very curious animal, believed to be the siredon or singing frog; the horned frog; the tarantula, very dangerous and poisonous; the centipede, very poisonous; the prairie or bird of paradise; the paroquet, and chapparel cock. As regards the distribution of some of these animals and reptiles, we only consider it necessary in a climatic point of view to state that on the first occupation of Fort Belknap, Texas, one hundred and twenty miles northwest of Fort Worth, tigers are found in its vicinity, at Phantom Hill, the panther, the prairie racer, centipede and jackass rabbit; at Camp Johnson, on the head waters of the Colorado, tiger cats; at Fort McKavett, the Mexican lion, bird of paradise and tarantulas, the surrounding country is arid and sterile; at Fort McIntosh the leopard and South American Lion, or puma; at Fort Buchanan, the leopard, the coralito, the escupion, and the vinegrilla; centipedes are found here measuring ten inches in length and one in width, and tarantulas eight inches long, with fangs one inch in length.

In here bringing to a close our imperfect geographical, medico-topographical, statistical, and historical account of the great region under consideration, if we attempt to reproduce some of its leading physical features, we discover that south of the thirtieth parallel in Florida, Louisiana and Texas is a tropicoid region in portions of which are found a few tropical trees, animals and insects, together with many tropical birds, fruits and flowers; in other portions of this region which throughout is emphatically that of long moss, moschilors and alligators, is or could be profitably cultivated, together with some other tropical products, sea island cotton, sugar cane and rice. To the north of this parallel on or near the coasts of the Carolinas in Georgia, Alabama and on the Mississippi river north of its delta, are localities, and small districts of country, the topo-

graphical and meteorological peculiarities of which are such as to give to them at least during the summer and fall months, also unmistakable tropicoid climate.† The climate of the Arid region extending south from the Indian Territory, along the western frontier of Texas, and embracing the "Llano Estacado," the middle Rio Grande, Southern New Mexico and the valley, together with the region bordering thereon, of the Colorado of the west in southwestern Arizona, with the exception perhaps of a small tropicoid region, [the Mesilla Valley] in Southern New Mexico, is probably on account of its aridness, barrenness high temperature, sand-stones and whirl-wind, more desert-like, than tropicoid. With a general southern inclination [with the exception of the mountainous regions of New Mexico and Arizona] it presents throughout its middle and southern portions, more particularly the latter, to the action of the sun, a great inclined plain, furrowed with sluggish streams and interspersed with extensive swamps, filled with all kinds of organic materials undergoing decomposition. Thus creating and presenting to the mind of the believer in malarial origin of fever, not only numerous and extensive laboratories for the manufacture of his favorite agent; but actually offering in connection with the medico-topographical history of the Dead Sea region, as will hereafter be shown, a few facts in elucidation of some of the most obscure and long disputed points connected with the generation and elimination of this most mysterious agent.

[To be concluded in January Number.]

ARTICLE II.—*Case of Diaphragmatic Hernia and Aortic Aneurism.* ✓

By JOSEPH F. JOOR, M. D., Visiting Physician to the Charity Hospital.

No apology is necessary for presenting the following case to the medical public. Hernia through the diaphragm is a condition full of interest, from its rarity, if from nothing else; and the writer trusts this case will be found doubly so from its remarkable complications.

† The Dead Sea region although lying entirely north of thirty-first parallel of north latitude, has strictly a tropicoid climate.

Jno. G. K—, aged 37, native of Ohio, was admitted to Ward 27, Charity Hospital, on the afternoon of June 16th, 1870. He said he was unable to pass his urine, and complained of severe pain in both lumbar regions, and the corresponding part of the back. This pain was not relieved by any change of posture, and was unattended by any noticeable tenderness. He also complained of great restlessness, and considerable nausea, but no vomiting. His skin and conjunctivæ were quite yellow, tongue loaded with a whitish fur, skin cool and moist, pulse hard and resisting. He said he had been sick thus for four days, previous to which, he had been on a hard spree. He was a stout, robust man, and said he had always enjoyed good health. Fourteen years ago, however, he was badly wounded in an affray at Cincinnati, receiving one stab about an inch and a half above the left nipple; another in the left side, between the sixth and seventh ribs about two inches to the left of a perpendicular line drawn through the nipple; a third, between the same ribs, an inch or two further back; a fourth, just below the tip of the ensiform cartilage, and a fifth, just above the crest of the right ilium, about an inch from the anterior superior spine. The scars of all these wounds were still very distinct. The patient stated that Dr. W—, of Cincinnati, who attended him, told him that the wounds in the left side had penetrated the lung, and that he had "a rupture that would kill him some day." The ward student, Mr. Durr, attributing the symptoms to hepatic derangement, ordered, at his evening visit, ten grains each of calomel and sodæ bicarbonas: also to relieve the nausea, a tablespoonful *pro re nata* of the following mixture: \mathcal{R} . Sodæ Bicarb, 3i; Aquæ Laurocerasi, fʒi, Aquæ Menth. Piperit, fʒv \mathfrak{m} .

Next morning (June 17th), the patient was seen by the writer for the first time. Said he felt better, but still complained of the pain in his loins. Had passed a very small quantity of highly colored urine. His bladder was then perfectly empty. Skin cool and moist; tongue clean; pulse full but soft, and of about normal frequency, (not counted). I ordered him to drink freely, during the day, of a mixture containing nitrate of potassa and infusion of digitalis. He was comfortable most of the day, the flow of urine being much more free, but in the evening the

pain in the loins returned. For this, he was dry cupped over the seat of the pain, by which he was greatly relieved for the time. He also took $\frac{3}{4}$ gr. of morphine at bed-time.

18th. Is as bad as ever; has slept very little, and cannot lie down in bed from the pain in his loins, although his urine is more abundant, and apparently healthy. Suspecting that there might be an aneurismal or other tumor, I made a more thorough examination of the abdomen. By careful palpation, I detected what appeared to be a small tumor, deep in the right lumbar region, the principal seat of pain. It appeared to be about as large as a small fist, solid, not particularly sensitive, and rather movable, seeming sometimes to slip away from the fingers under the adjoining viscera. It was quite detached from the liver. Neither in this tumor, nor elsewhere in the abdomen, could I detect the slightest thrill or abnormal pulsation. As his bowels were now somewhat confined, I thought it possible that the supposed tumor might be nothing more than an accumulation of feces in the colon. I accordingly ordered him one oz. *magnesiae sulphas* in six oz. infusion of senna. Also, as the pain was so severe, a large blister to the right lumbar region. As soon as the purgative acted and the blister rose, (which was in three or four hours) the pain left him almost entirely. The following night, however, though in no particular pain, he was very restless and nervous, and could not sleep till he had taken half a grain of sulphate of morphia.

19th. Complains now of a dull, heavy pain behind the lower part of the sternum, extending toward the left side. The lumbar pain is quite gone, and the urine normal in quantity and appearance. Being somewhat non-plussed by these wandering pains, and unwilling to cover the man with cups and blisters, I simply ordered a mustard plaster to be applied. This produced almost immediately relief. He remained quite comfortable all the rest of that day, and slept well the following night without morphine.

20th. Patient appeared in the morning to be doing well. Was free from pain and quite cheerful; spent most of the day on the veranda of the ward, laughing and talking with the other patients. A little before six in the evening, just after he had eaten

his supper, he suddenly fell from his chair in a state of insensibility, and expired in a few minutes.

Autopsy, 15 hours after death. Body well nourished, skin and eyes of the same jaundiced hue as before death, rigor mortis strong. On raising the sternum, a large loop of the colon, accompanied by a portion of omentum, was discovered almost filling the left side of the thorax, and reaching the third intercostal space. This was found to have escaped from the abdomen through an oval opening, about two inches in its transverse diameter, and an inch and a quarter or inch and a half antero-posteriorly. This was situated about the center of the left half of the diaphragm, nearly in a line with one of the cicatrices in the left side. The gut, which looked healthy, adhered to the edge of the opening through the greater part of its circumference, but in some places the finger could be passed between with ease. There were no appearances indicative of strangulation, nor was there any appearance of a peritonsillar sac. The pleura contained some loose shreds of lymph, and a little bloody serum. These had evidently escaped from the abdomen. The lung was crowded into a very small space at the upper and back part of the chest. It had contracted extensive adhesions to the surrounding parts, (except the hernial mass,) but seemed healthy, and partly re-expanded on removing the pressure. The heart, perfectly normal, was lying almost directly under the sternum, its apex opposite the right edge of the ensiform cartilage. The pericardium contained about two ounces of light yellow serum. The right lung was healthy.

On opening the abdomen, a large quantity, probably two or three quarts, of very bloody serum escaped. In the left hypochondriac and lumbar regions was an immense extravasation of blood, partly behind the peritoneum, partly in its cavity. Most of the clots were soft, loose and evidently of recent formation; others were more solid, resembling *spleen* in consistence, and (I suppose) were formed at an earlier date. The former were mingled with numerous shreds of half organized lymph. Further search revealed an aneurism, as large as an orange, arising from the aorta, between the origins of the celiac axis and superior mesenteric artery. This communicated with the aorta by an

opening about an inch and a quarter in its longest diameter. Behind and toward the left side was a rupture, large enough to admit the tip of the little finger. The sac was lined by a thin fibrinous deposit. It was situated directly behind the pancreas, which was pushed forward and flattened out. It formed a complete covering for the tumor on its anterior and lateral surface, stretching across it like a saddle. Its head was thrust over to the right, directly behind the descending portion of the duodenum, at the point where the latter is crossed by the *ductus communis choledochus*. The duct had evidently been compressed. The substance of the pancreas seemed healthy. The liver was rather large, pale and flabby. The wound in the epigastrium was traced downward and to the right, through the edge of the right lobe of this organ. The gall bladder, which was moderately distended, contained a calculus as large as a marble. The right kidney was very large, about six inches in length, with a slight constriction about the middle. It was unusually moveable; could be pushed up, down, or to either side with ease. When *in situ*, it was lower than normal, with its lower extremity inclined forward. It was in a state of venous congestion, but otherwise appeared healthy. After the most careful and prolonged search, *no trace of a left kidney or ureter could be found.*

The stomach, intestines, and spleen were normal. The head was not examined.

Now a few words as to the true nature of this puzzling case, The knife which inflicted the wounds in the left side, evidently penetrated the diaphragm. The opening thus formed, evidently remained after the other wounds had healed, and the colon was gradually forced through it. The compression of the lung and displacement of the heart must have been brought about very gradually, as they seem to have given rise to no serious disturbance to the general health; and it is probable, this man, who had carried a large portion of his colon in his thorax for fourteen years, might have carried it there for twice fourteen more, but for the super-vention of the aneurism. The latter, situated among the yielding parts, seems to have reached its full size, without producing any evident derangement of the health. At length, however, it

began to exert injurious pressure upon the neighboring parts; on the solar plexus, causing pain, nausea, and that vague feeling of nervousness, of which he complained: on the pancreas, and through the head of this organ, on the *ductus communis choledochus*, causing jaundice. The renal congestion and suppression of urine, were due either to interference with the *renal plexus*, or to compression of the emulgent vein. The tumor did not extend sufficiently far back to involve the spinal nerves.

The rupture of the true *sac* of the aneurism, probably occurred just before his admission into the Hospital, leading to an extravasation of blood in the sub-peritoneal areolar tissue, forming the more solid coagulæ found at the autopsy. These, acting as any foreign body would, gave rise to a circumscribed peritonitis, and the effusion of lymph and serum. On the 20th, the *peritoneum* gave way, and a fatal hæmorrhage followed: the blood then poured out, forming the large loose clots, mingled with the products of inflammation.

The fixed pain in the lumbar regions may have been caused by the pressure on the nerves; but was more probably due to renal congestion, on the right, and to peritonitis, on the left; although one of the usual symptoms of serous inflammation (*i. e.* tenderness on pressure), was absent throughout.

My failure to detect the aneurism before death, was evidently owing to its position behind the pancreas and stomach. The supposed tumor in the right lumbar region, was doubtless the lower extremity of the large and movable kidney.

Was there any connection between the hernia and the aneurism? Probably not: though it is possible, as was suggested by Prof. Logan, that the escape of so considerable a portion of the contents of the abdomen, might, by lessening the "outside pressure," on the abdominal vessels, facilitate their dilatation and ultimate rupture. The absence of the left kidney was doubtless congenital.

It is greatly to be regretted that we have so meagre an account of the state of K's health, from the time he was stabbed, to the period of his final seizure. It would be very interesting to trace out the effects of a hernia, so large and so peculiarly

situated, on the functions of digestion, respiration, and circulation.

In conclusion, I wish to express my obligations to the interne of the ward, Mr. D. G. Durr, for much valuable information in regard to this case.

ARTICLE III.—*Case of Extra and Inter-uterine Fœtation occurring conjointly; with operation therefor, resulting in the death of the mother, and the saving of two living children:* By Drs. JNO. W. MOORE, and E. PAUL SALE, Aberdeen, Miss. Reported by E. PAUL SALE, M. D.

Dr. MOORE was called, February 11th, 1870, to attend Mary Ann, negress, æt. 22, unmarried, a cripple from atrophy of muscles of left leg; by occupation a seamstress. Herself and parents (with whom she lived) represented that she had been "tricked" by a negro man, and had a large snake in her abdomen, which was easily felt through the integuments. The movements of this snake caused great pain, as though it were coiling around her "insides."

On examination, a large tumor was found extending over the lower part of the left hypochondriac, part of the umbilical and left lumbar regions, and encroaching somewhat upon the boundary of the hypogastric. Through the parietes of the abdomen, the outline of a fœtus could be felt, supposed to occupy the left ovary. She was suffering great pain, and her nervous system was seriously deranged. Pulse, 115; bowels obstinately constipated; appetite poor; she slept but little, and was much prostrated.

Dr. Moore visited her daily until March 2d, and her condition becoming alarming, he requested a consultation with me. (Here the report continues from my personal observation of the case.) I had heard of this patient some weeks before I saw her from negro patients, who reported her being "voudoued" by a noted negro man in the country. I was requested by Dr. Moore, who purposely withheld his diagnosis, to go over and examine the case, and report my diagnosis to her parents to be compared with his. I did so, and concurred *in toto* with him.

The normal weight of the patient was about 110 or 115 lbs.; at the time of examination, she was rather anæmic, and slightly emaciated; her eyes sunken; respiration, 37 per minute and not prolonged. Her tongue was small and dry, furred with a coating approaching brown. Pulse, 135, small and weak; temperature $97\frac{1}{4}^{\circ}$. Her replies to questions were delivered in rather a faint tone, and were interrupted by paroxysms of pain, which surprised me in intensity, considering her exhausted condition. Upon exposure, I found the tumor situated as Dr. Moore described, except it occupied a position more towards the mesial line, the contour of the abdomen being prominently pointed and turned to the left side. Whilst viewing the shape, and determining the position of the tumor, I felt a contraction of it, and the outlines of a foetus could be distinctly felt. Examination *per vaginam* revealed a hot and dry vulva and vagina: the os not at all dilated, cervix elongated. I tried, by conjoint manipulation, to get at the size of the uterus, which could be felt, but imperfectly, it appeared hard as far as felt, and its exact outline could not be determined.

She stoutly denied having had intercourse with a man, and a confession could not be extorted from her by any means. I was informed by Dr. Moore and her mother that contractile pains had existed for four or five weeks, and that she had been instructed by a negro midwife, whenever they came on, to stand, or sit, if unable to do the former, and press upon the tumor from above, downwards, to present the snake crawling to her throat. This advice had been followed steadfastly by her until her strength failed her, and she was then assisted by sympathizing relatives and friends.

The next thing was the means of relief, and Dr. Moore and myself took into consideration the following points. The woman is evidently the subject of an extra-uterine foetation. She had had contractile pains for at least four weeks. She is becoming rapidly exhausted; and if nothing is done, death must soon take place. There is no chance for the foetus to be resolved into pus or a calcareous mass. The contraction cannot be controlled, and consequently there is danger of rupture and internal hæmorrhage. Ovariectomy affords the only hope for saving either the mother or

child. Another physician was called in consultation, but we failed in obtaining him. We finally concluded to operate, and give the woman her only chance, and the possibility of saving the child. The necessary arrangements could not be made that day, and after seeing her again that evening we concluded to operate next morning.

Additional medical assistance was desired but we again failed in obtaining it, and had to rely upon two intelligent unprofessional men, one of whom became suddenly indisposed in the midst of the operation. This inconvenienced us very much. At the request of Dr. Moore I performed the operation, selecting the method described by Prof. T. G. Thomas.* The incision was made more to the left to suit the individual case. After cutting through the abdominal walls by successive incisions, I came upon a hard, and somewhat glistening tumor. I then attempted to determine whether it was intimately connected to the uterus, by an assistant moving it up and down while my finger was in the vagina upon the os. It moved slightly, but not enough to consider it directly attached. Next as to whether it was ovarian or tubal, and I must confess the emergency of the moment precluded my making an extended examination. Since thinking of it though, my impression is that it was ovarian. I desired to cautiously incise the tumor, but the envelope was so thin and tense, that upon the first cut of the scalpel a gush of blood escaped, succeeded by a part of a sarcoous mass which was soon discovered to be a placenta. The opening was immediately enlarged, and the placenta, with a living child, extracted. The sac rapidly reduced itself in size, and allowed the uterus, which it had almost entirely overlain, to be felt. To our great astonishment it was found to be large and globular as if impregnated. I stated to Dr. Moore my suspicions about it, and a hasty consultation was held whether to suspend the operation and try to deliver the child *per virginam* by dilating the os, or make one operation do for both. The latter was deemed advisable, and hysterotomy was performed, which resulted in the extraction of another living child and placenta. The abdomen, cyst, and uterus were cleansed of all coagula, and the wound closed. A

* See his work on Diseases of Woman.

sound was passed with some difficulty through the os to allow the discharges to pass through. During the manipulation, the hands were from time to time dipped in artificial serum, and all precautions were observed as best we could under the circumstances. I neglected to mention, in connection with the operation, one important item. Bearing in mind her extreme asthenic condition, and liability of sinking under the operation, we administered before operating ʒiv. of brandy, and in the midst of the operation an injection of carbonate of ammonia, which was followed, after the patient was about to [be placed in bed by mxl Battley's Sedative in ʒij. more of brandy. As the result of it, she was taken from the operating table with a better pulse than when she was placed on it. Reaction occurred, and she expressed herself as feeling pretty well, and her conversation almost approached a cheerful tone. Dr. Moore took charge of the after treatment, which was, large doses of morphia, nutritious diet, stimulants, and wound dress with a solution of carbolic acid; and reports as follows:

March 4th,	Pulse, 150:	hiccough:	lochia established.
" 5th,	" 146:	" "	continued.
" 6th,	" 140;	" "	" "
" 7th, 9 A. M.	" 155:	" "	" "

Sanious discharge from wound: complains of severe pain in arms and breast. Died of supposed septicæmia, at 3 P. M., same day. At time of this writing, April 15th, children doing well."

Her condition was so favorable on March 6th, when I visited her, in consultation with a surgeon of note, Dr, James M. Green, of Aberdeen, that we thought it more than possible that she would recover. On account of the degree of superstition, which is held by freedmen, in regard to their dead, no *post mortem* was allowed.

In presenting this case to the medical public, I regret very much that more complete observations were not made; but the emergency of the moment, lack of competent assistants, lack of surgical conveniences, and entire inexperience in abdominal sections, are excuses I offer in extenuation of this seeming remissness; and I will also state that the patient, as well as our-

selves, lived in the country, and the subject of the operation lived three miles from Dr Moore's, and ten from myself, over almost impassible prairie roads during the winter and spring months: and it so happened at the time of the occurrence, both of us were actively engaged in professional duties. It is greatly to be regretted that an autopsy was not allowed to reveal the anomalous and pathological condition of the parts.

ARTICLE IV.—*Accidental Reduction of the Head of the Femur, after over forty years' Dislocation.* Reported by C. O. WELLER, M. D., of Columbus, Texas. ✓

IN the month of September, 1869, Dr. Wm. M. Byars, of Columbus, Texas, was called to see Cy Hunter, negro, a stout, robust, fleshy man of about fifty-five years of age. When a boy, Cy was very fond of running horses, and was frequently thrown from them, without however receiving any serious injury. At the age of twelve, a slight pain about the left hip joint began to give him some trouble, which, by degrees, becoming more severe, at length, compelled him to resort to the assistance of a stick, to enable him to walk. This continued gradually getting worse for about a year, when he discovered that his left leg was considerably shorter than the other, and that there was a projection about the left hip joint that was absent at the right.

About this time, the pain ceased, and he informed me he could distinctly feel the head of the bone out of its place. It appears, that for a year, a gradual dislocation of the head of the femur had been going on, and it finally took up its new abode, upon the dorsum of the ilium, where it was destined to remain for over forty years. The patient was unable to trace any connection between a fall from a horse and the pain in his hip. He did not remember that the pains commenced at any time near an accident of the kind. Dr. Byars had known him for several years previous to the period of which I am writing, and knew him to be laboring under an iliac dislocation of the femoral head. In September last, whilst he was riding in a wagon, the horses became affrighted, ran away, and he leaped from the wagon, lighting

upon his feet. As was before stated, he was a large, robust, fleshy man, and when his feet touched the ground, he felt his leg give away with a very distinct snap. Dr. Byars was sent for, and by his request, I was called in to assist him. Considering the age of the patient, and the pain he was suffering being referred to the parts immediately around the hip joint, after a careful examination, we concluded there was a fracture of the neck of the femur. (I will add, in parenthesis, that the fleshy condition of the patient rendered diagnostic investigations somewhat difficult.) Acting upon this opinion, he was put to bed, with his leg resting upon a double inclined plane, with the hope, that, notwithstanding his advanced age, we might obtain for him a fibro-ligamentous union of the fractured bone. After resting upon the double inclined plane for about ten days, he felt a sensation about his hip as if something had slipped, and putting his hand there, he discovered that the head of the bone had left the situation it had been in so long, and disappeared. At the next visit of Dr. Byars, his attention was called to the change that had taken place, and upon the Doctor's examination, he found there had been a complete reduction of the bone. This examination lead also to the discovery of the true site of fracture, which, instead of being, as we supposed, of the neck, proved to be of the shaft in its upper third.

The patient was left upon the double-inclined plane for a few days after this discovery. Smith's anterior splint was then substituted for the sake of ease and convenience. In about eleven weeks from the date of the accident he was able to leave his bed and hop about on crutches. In about three months he was able to bear some weight upon the injured leg, and at this time, about ten months, he walk only with the assistance of a stick, is able to bear the weight of his body on this leg, which is only one inch shorter than the other, whereas before the reduction it was two and a half inches; the motion of the joint, though not as good as the other, is sufficient to permit of more easy progression than he has enjoyed since it was first dislocated. This case is reported on account of its being as far as my knowledge extends entirely unique. I know of no case recorded of a dislocation of the hip joint, either from disease or injury, even approximating the

length of time this had existed, undergoing either accidental or intentional reduction. I will state in this connection that it was in no wise contemplated to bring about the result. If it had been even suggested that such an event could have been effected by means directed to that end, the suggestion would have been rejected as entirely impracticable if not impossible, for the head of the femur had been absent from its proper place, firmly secured by adhesions, ever since the childhood of the patient, and the rational inference would have been, even if it were practicable to break up the adhesions, that the acetabular cavity would long since have ceased to be in a condition to receive the femoral head. It is difficult to decide what was the primary cause of the dislocation. It could not have been from a fall from a horse, for the dislocation would have been immediate, depriving him of the power of locomotion, whereas he was never so that he could not walk with a stick. Moreover, he cannot trace the commencement of his troubles to any mechanical causes whatever. It is possible that the hip may have sustained some injury from a fall which acting as an exciting cause, called into play other morbid processes which gradually effected traction of the bone from the cotyloid cavity. The nature of these morbid processes, though, is unknown, for he has neither a rheumatic or scrofulous history, and even if either of these conditions of the joint had existed, it is more than probable it would have been so altered by their ravages as to have entirely disabled it for articulating purposes. It is merely supposition though that a *fall* was even the *exciting* cause, for the patient was unable to trace any connection between such an occurrence and the commencement of his troubles. It is worthy of notice that soon after he observed the head of the femur out of its place the pain ceased and he was never after troubled with it. The fact that the acetabular socket should have remained in a condition to receive the head of the thigh bone after its long absence is a matter I think exceedingly remarkable, for *post mortem* investigations have shown that in very much less time than this had existed, this cavity is filled with fibrinous deposits. But how was reduction brought about? It is not easy to give a positive answer, but I would suggest that the force with which he struck the ground in jumping from the

wagon, was not only sufficient to fracture the shaft, but also, to break up the adhesions which bound down the head and give it free action, and as proposed by Dr. Byars, when placed in bed upon the double-inclined plane, after the lapse of ten days the muscles became thoroughly relaxed by fatigue and left the head of the bone subject to any movements of the pelvis that might take place, and that whilst shifting the position of the trunk for the sake of ease and comfort, the head slipped back into the socket. What would probably be the condition of the ligaments of the joint at this time? Is it not likely that the round and capsular ligaments, were ruptured or destroyed by the same morbid processes that produced the luxation. I think not, but consider it not at all improbable, as suggested by Dr. Byars, that owing to the gradual manner in which the dislocation was effected—it being in progress a year before it was completed—and the youth of the patient at the time, those ligaments were gradually elongated and by time the dislocation was effected they were carried with the head of the bone upon the dorsum of the ilium, without its ever having escaped from the embrace of the one, or having its connection with the other severed. If this supposition should be true, might not this condition of things have had some influence in preserving the cotyloid cavity in a state of integrity? Might not the synovial secretion, with which this cavity probably was filled, have presented the formation of those fibrinous deposits with which it is usual for it to become filled? The views of the profession on this subject are solicited.

ARTICLE V.—*Report of a case of Cerebral Paralysis, terminating in Recovery.* Read before the Mobile Medical Society, by
DR. E. H. FOURNIER.

ON the 6th of October last, Mrs. M——, whilst superintending some house work, fainted and fell to the floor. I was immediate-sent for, but being absent, my friend, Dr. Gaines, kindly visited her. I reached the house shortly afterwards, and found her recovering from a swoon; pulse and respiration regular and tranquil, and temperature normal. On the next day, she went

about her usual avocations, not feeling very well, but as she had suffered more or less, for some time, from pain, alternating between the region of the uterus and the head, she would not postpone duties that she considered urgent. At an earlier hour than the day before, she was seized with a similar paroxysm, and I was promptly called. I was not alarmed, for there had been no febrile reaction after the first attack, and I had seen my patient on two occasions, after fright in one instance, and severe exertion in another, faint or swoon away, and remain in that state for half an hour: but remembering that about the same time the year before, she had an alarming attack of congestion of the stomach, a quotidian intermittent, without pyrexia, and which was promptly relieved by quinine, I resolved in this instance to saturate her with that remedy, and prescribed grs xx in four powders, two to be taken before bed-time, and the remainder the next morning, in order to anticipate a return of the paroxysms. The following day, October 8th, I visited her at about 10 o'clock, A. M. She was thoroughly quinized, and complained of feeling badly, which I attributed to the quinine. As she felt depressed, I administered a stimulant, and was on the point of going away, when she was seized with a spasmodic attempt at deglutition, with arrest of respiration, some rigidity of the muscles, but no convulsions. She grasped her throat as if to tear away an obstruction. Dashing cold water into her face would restore respiration, and consequently relieve spasm; but whenever she would attempt to swallow any fluid, the same difficulty would recur. I therefore administered, *per rectum*, such nerve stimulants and anodynes as the case appeared to demand. She then seemed prostrated and remained quiet, with eyes closed, for a half hour, when she raised herself suddenly in bed, crying out, "Go away from me," then folded her arms and seemed to know no one about, but looked on all with an expression of suspicion. In this state I left her. On my return, an hour afterwards, she was lying quietly, intellect undimmed. She remembered the relief, dashing cold water into her face gave and that she made a sign for it, when the paroxysm would recur; but made no mention of the mental hallucinations. She passed the remainder of the day and night undisturbed,

but on the following day, she had a return of the hysterical paroxysm, succeeded by the same maniacal excitement and subsequent prostration, though bromide of potassium had been administered in thirty or forty grain doses. Now the more decided hysterical features ceased, and the mental disturbance became more frequent. At one time, she would complain of acute pain, commencing in the uterus and rising to the head, as the preceding symptom of the mental derangement; then again, the head alone would be the seat of pain. This pain was not referred to any distinct or constant point of the brain, but involved the whole, and was accompanied by a flushed face, and some increase of heat of scalp, but there was no fever.

Associated, as this train of symptoms was, with suppression of menstruation and regarding the severe uterine pains as indicative of an effort to the fulfilment of this function, I scarified the neck of the uterus to relieve the engorgement and applied hot water douches as an additional means of promoting a flow of blood; the desired object was not attained, I did not use any more active measures to this end, for though the condition of the womb, irritable and discharging from its cervical canal a rope of viscid mucus, would seem to contradict the probability of pregnancy; my patient had menstruated once or twice since her last confinement, in May last. I then resorted to the administration of morphia by hypodermic injection, with the view of arresting the reflected disturbance of the brain by overcoming or obtunding the sensibility of the womb, and at the same time place the latter organ in the best condition for the performance of its catamenial function. Whilst under the decided influence of this anodyne, she complained of no pain, and the intellect was clear; but so soon as it passed off, the attack of derangement would return; however, I continued the morphia for several days, with the only seeming effect of prolonging the intervals between the explosions of an excited brain. Alternating thus, between mental excitement with exaggeration of physical vigor, and bodily prostration with mental calm, the case continued for several days, until, the intervals lessening, excitement gave place to the most extreme prostration, both physical and intellectual. There was no muscular paralysis, but that power of co-ordination between

the will and the instruments of its operation was in abeyance. The other intellectual faculties were dimmed, but not darkened, there was binopia; ptosis of the upper eye lids; pulse, 110 and feeble. At this period I called upon my friend Dr. Gaines to to assist me in the management.

With the history, detailed as above, the doctor examined my patient with his usual earnestness and care, and concluded that congestion of the nerve centres had taken place, whatever had been the source of the original trouble; basing his opinion upon the quick pulse, and the skin hot to the touch, in conjunction with the general condition as presented, he advised, as she was already mercurialized, to give iodide of potassium, and to apply a large blister over the abdomen. I will state here that a day or two before this extreme prostration came on, I had prescribed five grains each of calomel and bicarb. sodæ, in three powders; one to be taken every two hours, with a view of unlocking the secretions, by disengorging the mucous membrane of the alimentary canal. She took but two powders, and though they produced two evacuations from the bowels, she was salivated on the second day. I did not intend to ptyalize, and did not give the mercury for its specific effect. In addition to the prescription recommended, we ordered wine whey and beef tea.

The irritation produced by the blister seemed to rouse up the dormant energies of the will. She could speak loudly and distinctly, and raise herself in bed, though before she could lift neither hand nor foot, or speak in but a labored whisper. I was encouraged by this effect, for I thought that an oppressed organ, whose function could be roused into action, might be in a state of paralysis, but could not have undergone disintegration or destructive change. The influence was not, however, restorative, and she soon returned to her former state; pulse more rapid, and stupor more decided. There being some doubt about the temperature, the thermometer was brought to our aid, and indicated 97°, one degree below blood heat. Milk punch and essence of beef were freely given.

Feeling a deep personal interest in my patient, I thought it advisable to call in Dr. Ketchum, whose fortune it had been recently to have his attention specially called to cases of this

melancholy nature. He reviewed the state of my patient, for the two months preceding the more decided illness, the history of the disease, as above recorded, and then carefully noted the symptoms presenting for his examination. His analysis was philosophically made, and his conclusion was that a destructive change in the cerebral structure was taking place. With this view, the prognosis could not be anything but unfavorable.

I had fought against this conviction, in my own mind, and the hope, based upon the principle, that an organ may be so disturbed, that its want of innervation would simulate its degeneracy, well nigh abandoned me. Restoratives were to be depended upon, both in medicine and nourishment. They were studiously and watchfully given, for I almost superintended their administration myself. To test the influence of stimulants, I ordered an ounce of brandy to be given and to be repeated in an hour. In the course of three or four hours, I visited my patient, and found her quietly asleep, pulse reduced to 100 and increased in volume; with a warm perspiration bedewing her forehead. I was gratified to see that her system responded to the stimulants, and upon that spark of vitality, my hopes were renewed. She was taking chlorate of potassa for her sore mouth, and I added tinct. of iron and sol. of arsenite of potassa, in five drop doses. She began to improve, but so slowly, that for several days, I was unable to base an opinion on the progress.

On the 5th day from what I may now call the crisis, finding the pulse still weak and rapid at my evening visit, whilst in the morning, it was not over a hundred, I ordered three grains of quinine. The following morning the pulse was down to ninety and of good volume and continued so with very little alteration during the day, I, of course repeated the quinine, and then discontinuing, prescribed other remedies. Com. tr. bark and hypophosphite of soda to be taken three times a day, with the hope of more efficiently nourishing the impoverished brain, indicated in the physical weakness, but more particularly in the still remaining mental hallucinations. Under the influence of tonic

medicine and proper nourishment combined with cheerful associations she was slowly, but progressively restored.*

Whether we should be satisfied with the statement often made, that diseases having no septic cause for their origin or propagation, by some inexplicable influence now and then appear in the form of an epidemic; or whether it were not more philosophical to seek an answer in the tendency to such affections from hereditary defects transmitted to us and aggravated by our greater neglect of those laws of health that should govern the human family; the fact seems to have been observed that there have occurred in our community recently, a greater number of cases of cerebral disease than formerly. In a few instances these have terminated rapidly in death, whilst in others, organic life, deprived of the intellect has continued without purpose and without control. When we have, therefore, a case presenting symptoms, both physical and psychical, of such an alarming nature and yet terminating in health, we should do more than simply relate the events that marked its course, we should attempt an explanation.

“The supreme cerebral centres may, like other nervous centres, suffer secondarily from a morbid source of irritation in some other part of the body.” The uterus in this instance was that morbid centre of irritation, and reflected the headache complained of for two months. At the menstrual molimen, the uterine disturbance became greater and the failure of the function operating, as a great disappointment, upon a naturally irritable nervous temperament, developed through the spinal nervous system the more decided hysterical paroxysms.

The action of these paroxysms was a forcible expiration, in the act of coughing, when the glottis was closed, consequently no air was inspired to replace that which was expelled; the thorax was compressed, the escape of the venous blood from the brain was checked, and when the veins finally became filled to a certain point no new arterial blood could enter the capillaries. The brain, consequently, was in a state of anæmia. Now, whether

* The subsequent developments go to show how a physiological function can under certain circumstances or conditions of system, be the exciting cause of disease. In a short while this lady gave evident signs of pregnancy, the history of which was not marked by any unusual symptoms. The urine was examined from time to time without exhibiting any trace of albumen and on the 9th of May she was delivered, after a short and easy labor of twins.

we come to this conclusion by regarding a hyperæmia as the previous state of the brain, because we can appreciate a cause for its induction, or presume there was a deficiency of arterial blood from the outset, "it being a physiological fact that the excitability of a nerve is increased, a short time before it is entirely lost," the effect is the same in both, a want of nutrition.

The indications of this condition of the ganglion cells and nerve fibres are thus described by Niemeyer. "The motor symptoms are decided slowness and sluggishness in the motions of the patients, their limbs are as heavy as lead, and if this state increases, there is complete inability to make any voluntary movement, (Cerebral Paralysis). The psychical symptoms are loss of interest and indifference, great slowness of thought, and limitation of ideas: inclination to sleep, from which the patient, at first roused with difficulty, and subsequently cannot be aroused at all."

Such symptoms, in almost their worst degree, were certainly presented in the case, I have related, and the analysis I have attempted, based upon the views of the authority quoted, seems to give the best explanation of that condition of the cerebral centres, which approached but stopped short of destructive change.

ARTICLE VI.—*The Pathology and Treatment of Malarial Diseases.*

By D. W. BRODNAX, M. D., Camerqn, Texas.

IN 1845, there prevailed in Virginia, where I was then living, a very remarkable epidemic, of which the following case, selected from others in my case book, as being the first I saw, will give an idea of the character. It (the epidemic) was remarkable in that it first appeared in the Piedmont region of Va., to which the inhabitants of the tide water region were in the habit of resorting annually for health, and rolled down south like a wave, till it finally disappeared on the coast, on the approach of frost. It was also remarkable in that it attacked almost every member of any family in which it broke out, and was almost invariably fatal. So great a panic did it produce, that people fled before it

in dismay, neighbors refusing to visit the sick, and in many instances families deserting the first member that was stricken, leaving him, without assistance, to his fate. Living in the tide water region I anxiously watched its approach, and endeavored by correspondence with physicians who had met it, and by reading every thing I could see on the subject in the public prints, that were full of it, to prepare myself for the conflict. No treatment seemed to have any effect, and to be stricken, was to die. At length on the 27th, September I was called to my first case.

Aggy, colored, aged 17, had been seized with a chill several days before, which had been followed by reaction, which had continued, with occasional remissions ever since; no periodicity of remission had been observed, and no chill except that which had ushered in the attack. Her mother having been taken in the same way sometime previous, and having been treated by an old physician who had the entire confidence of her owner, he attempted the treatment of this case himself, following as far as he could, the course of the physician, although it had been unsuccessful, believing that "if anything could, it would save her." He had given her repeated doses of calomel and castor oil, and whenever he deemed the pulse low enough, had given quinine in 1 gr. doses, till 5 or 6 grs. had been taken. Her condition becoming very alarming, I was called in, and found her lying supine, her eyes open, pupils dilated, look vacant, anxious and staring, inattentive to surrounding objects, hard to be aroused so as to understand questions, when she would answer in a loud, harsh voice, tolerably coherently, and request to have her ears opened. Her skin was hot and dry, her tongue dry, pointed, and covered with a black coat; sordes. on teeth, gums and lips; abdomen tympanitic and tender on pressure; intense thirst; loathing of food; involuntary passing of urine and fæces; pulse 140, small and jerking; sloughing over the sacrum. When sufficiently aroused would complain of pain in abdomen, and deafness. Auscultation and percussion revealed the physical signs of pneumonia. R. Quinæ sulph. gr. xl. morphinæ sulph. gr. ss. M. in chart. 4 div. one every two hours. Chicken tea.

28th, 5 o'clock P. M. Had rested tolerably well, slight moisture of skin; tongue moist; pulse 120. Urine still passed in bed,

no stools; still quite deaf, and complains of abdomen. *R.* Mass. hydr. gr. iv; morphia sulph. gr. $\frac{1}{3}$; stat. sum.

29th. Skin hot and dry; tongue dry and brown; pulse 130, small and jerking. *R.* Quin. sulph., gr. xl; morph. sulph., gr. ss., *M.* in chart. 4 div. one every two hours. Mucilage of gum arabic ad libitum; emollient poultices to sacrum, and position changed to side.

Four o'clock P. M. Position lateral; skin moist; tongue moist, but still brown; pulse 120; tenderness of abdomen less; still deaf. *R.* Mass. hydr., gr. iv; morph. sulph., gr. $\frac{1}{3}$ stat. sum.

30th. Position supine, sloughing having commenced over trochanter major; skin dry but cooler; tongue dry and glazed; in other respects the same. *R.* Quin. sulph., gr. xxiv; morph. sulph. gr. $\frac{1}{3}$. *M.* in chart. 4 div. one every two hours. Chicken tea.

Five o'clock P. M. Position lateral; skin moist; tongue moist and beginning to clean; pulse 100; urine passed into vessel; no stools; tenderness of abdomen much less; had rested well, and improved in every respect except the sloughs, which were progressing. Astringent poultices to sloughs; chicken tea; no medicine.

October 1st. Rested well last night; urine and one alvine evacuation passed into vessel; less deaf; pupils natural; tongue cleaning; pulse 90. Sloughs had all separated, leaving a deep pit over the left sacro-iliac juncture, some over the left trochanter major; no tenderness of abdomen; appetite good. From this time she gradually improved, the only delay in her convalescence being occasioned by the irritation of the sloughs, requiring the occasional exhibition of quinine to produce rest. Her catamenial period having occurred during this attack, suffered no interruption. In other cases that I saw, there was profuse perspiration throughout, sometimes saturating the bed and dripping on the floor, the skin feeling as cold as marble, whilst the patient complained of intense inward heat and insatiable thirst. Some would commence with coma, from which it was difficult to obtain reaction; in some, the intellect would be unclouded throughout; in some, the lungs would be completely gorged in the lower lobes, with all the physical signs of pneumonia in the other lobes; in others, the spleen and the liver were

engorged and enlarged; and in others, the stomach and bowels were the principal sufferers, from which, in some cases, blood would be discharged in copious quantities. The matter ejected from the stomach sometimes answered exactly the description of black vomit. In some cases there was copious hæmaturia. In all the treatment was the same, and I lost but one case, that of a negress, seventy years old, to whom but little attention was paid by the nurses. In the families under my charge, however large, but one or two cases would occur, those taken with the premonitory symptoms, during my attendance on the first, being aborted by the prompt and liberal exhibition of quinine.

This will doubtless be recognized as a frequent type of fever in malarious districts, and the treatment will not, perhaps, at the present, be considered remarkable, although then I had no authority for it, and it was several years, before I saw any advocate for such use of quinine. A majority of the physicians whom I have met in Texas, to this day will not venture to give quinine till "the fever is broke," and it subsequently happens that the life or constitution of the patient is previously broken. I claim priority in its application, and asserted my claim at the time, in an article substantially the same as this, offered to the "*American Journal of Medical Sciences*," for publication, which was declined on the ground of absurdity.

The theory on which I founded this practice, which I now, still more than then, believe to be the true pathology of malarial diseases, is the point of interest, if any it has, of this communication. If this theory has been promulgated by any authority, it has not met my eye.

The sympathetic or organic nervous system is that which directs and controls the functions of all the organs, and the nutrition of the system, regulating the secretions, and associating the organs in harmonious action. If this system of nerves be disturbed in its action, either too much excited or too much depressed, those organs will be incapable of performing their functions, and the nutrition of the system at large will be impaired. The secreting organs produce either too much or too little of their proper secretions; the heart will act either too strongly or

too weakly, and the brain will be either too much engorged with blood, or anæmic. Malaria produces its first impression on this nervous system, and whether this first impression be exciting or debilitating, it matters not, for the ultimate effect will be the same. It may be the one or the other, according to the quantity of malaria imbibed. If the quantity be sufficient, the first effect will be such a prostration of the heart that the blood will be accumulated in the venæ cavæ, the liver, spleen and lungs, and there may be coma from an anæmic condition of the brain. If then such means be used as will arouse the energy of the nerves, and restore the action of the heart, such as sinapisms to the spine, the epigastrium, the wrists, hot pediluvia, with internal stimulants as soon as the patient can swallow, the circulation will be renewed, the coma relieved, and the other organs resume their functions. But this renewed activity of the nerves will not stop at its normal degree of intensity, but will go on increasing in excitement, until its irritability is exhausted, and there will be another collapse, with the same train of symptoms, that characterized the first. If the quantity of malaria imbibed be not sufficient to produce this overwhelming effect, the first symptoms of an attack will be a headache, nausea, aching of the joints, increased frequency of pulse, and general malaise, till these culminate in exhausted irritability and collapse characterizing the cold stage of intermittent fever. When reaction from this collapse takes place, it will go on increasing in intensity till again exhausted, when collapse will again occur. The length of time required to exhaust irritability will be according to the impression made by the disturbing cause, malaria, or the temperament or peculiar nervous character of the patient, forming the various types of the disease known as quotidian, tertian, etc.

The cerebro-spinal nervous system, by reason of its remote connection with the sympathetic, and the slow transmission through its multiplicity of ganglia of any impression made on it, may not be involved with it, and may not be cognizant of the disturbance, when there will be exemption from suffering, except at the period of collapse or paroxysm. When the two systems are simultaneously involved, they act and react upon each other, giving rise to that type known as continued or remittent fever.

The equilibrium between the two systems will be interrupted, and there can be no health till it be restored. Now, I conceive that quinine produces effects on the sympathetic or organic nervous system exactly analogous to those produced by opium on cerebro-spinal system; in large doses, it is a sedative, soothing the and allaying its excitement, and restoring it to its proper functions; in small doses, it is excitant, and increases its irritability, just as opium, in similar doses, acts on the cerebro-spinal system. The size of the dose required to produce these opposite effects, will be in proportion to the degree of excitement in each case. Now, if in case of simple intermittent fever, quinine be given in sufficient quantity to allay the existing excitement, the progress of that excitement towards exhaustion and collapse will be arrested, and health be restored. The organs, whose functions had been deranged by the disturbance of the regulator, will be restored to their normal condition, and will resume their duties. In case of remittent or continued fever, if morphine be given with quinine, the two systems will be simultaneously restored to their equilibrium, and will again act in harmony, to the restoration of health.

It may be that, from long continuance of functional derangement of some organ, organic disease will ensue, when, and only then, it will be necessary to treat it as a local disease. That organ, in each case, that is weakest and least able to throw off the engorgement occasioned by the *stasis* in the circulation, produced by the debilitated action of the heart, the direct consequence of the depressing influence of the disturbing cause, malaria, will be the organ most likely to require local treatment. In one case, it may be the lungs, producing, so-called, pneumonia, but more properly congestion of the lungs; in another, the liver; in another, the spleen, or the stomach and bowels, which may be so great as to produce hæmorrhage from these organs; or the brain, producing convulsions or coma; or the kidneys. These latter organs are sometimes so much involved, as to produce hæmaturia, and when this affection is associated with congestion of the liver, producing jaundice, it has become fashionable to call it "black jaundice," and I have lately seen some elaborate treatises on this complication, in which the use of quinine was

denounced as hurtful; but I think it as futile to attempt its treatment without the use of quinine, as any other in the train of consequences produced by the disturbing cause. And so in "pneumonia," so often met with during the prevalence of malarial fever, it is vain to attempt its treatment without the free use of quinine. The morbid influence, malaria, may lie dormant in the system for an indefinite time, and may not show its effects till some favorable opportunity occurs. During the winter and spring, after it has entered the system, some cause affecting the nutrition of the lungs, may so lower their tone, as to present this opportunity, and as at that season, the lungs are less able to resist than other organs, they are more frequently prominently affected than other organs, and there occur more cases of "pneumonia" than at other seasons. I have, for twenty-five years, treated these cases in accordance with the principles advocated above, and I have not lost three per cent. of all cases. In pneumonia, for obvious reasons, more, but in all forms and types of disease produced by the same cause, the nutrition of the system is impaired, and any medication that will still further impair it, is hurtful. Hence it is improper to bleed, or to give drastic purgatives, or nauseants, that exhaust the resources of Nature necessary to repair damages. In the commencement of a case, where there is reason to suspect that undigested ingesta are present in any portion of the alimentary canal that would produce local irritation, it is proper to evacuate the canal by as mild means as possible, otherwise purgatives should not be given. Let us see the effect of bleeding and purging in cases of "pneumonia." The blood, with which the lungs are engorged, is, for the time being, thrown out of the circulation, and Nature is to that extent deprived of her means to nourish the system; and in consequence of a portion of the lungs being engorged with blood, they are to that extent unable to perform their functions, and a smaller quantity of blood is aërated. Consequently, to accomplish her work with diminished means, she has to hasten the circulation, and to send around the portion of blood that is aërated in a shorter time. Thus the pulse becomes frequent, but not so full as in health.

If, now, a portion of this blood that is in circulation be ab-

stracted by venesection, we still further deprive Nature of her resources; or, if we abstract from the circulating blood a portion of its liquor sanguinis by cathartics, we accomplish the same thing, with the additional evil of thickening the blood that remains, and rendering it less capable of permeating the minute vesicles of the lungs, already contracted in diameter by their hyperæmic condition. The same reasoning will, *mutatis mutandis*, apply to the other congested organs. My patients suffering with "pneumonia" rarely need attention after forty-eight hours, when I see the case before organic lesions have occurred; and the milder types of the disease seldom require more than one visit. I must here indulge in a little reflection on the want of discernment in the public. The speedy recovery of my patients, especially those having "pneumonia," leads the people, who are not able to appreciate the physical signs, to question my diagnosis, and to believe that I have not encountered "so bad cases as Dr. so-and-so, who cured Mr. such-and-such, after he had been sick of "typhoid fever" for four or five weeks." In ninety-nine cases out of a hundred the so-called typhoid fever were cases of improperly treated pneumonia, that resulted in hepatization of the lungs, sometimes gangrene and sloughing, and the patient recovered in spite of the Dr., by the strength and vigor of his constitution. I have no "typhoid" cases in my practice, and whilst I may not obtain from an unreasonable public so good a reputation for the treatment of such cases as Dr. so-and-so, I have the proud consciousness of having benefited my fellow-men more than he.

It will be observed in the above detailed case that whenever I gave blue mass, which, in accordance with the general belief the "opium would arrest the secretions, unless combined with mercurials." I twice ventured to do, it *invariably arrested* the secretions, making the tongue dry, and increasing the frequency, though not the force of the pulse. This effect it produced by impairing nutrition, and probably by *diminishing* the secretion of bile, which I believe to be the only effect that mercurials have on the liver.

When the extent of the influence of the sympathetic nerve over the secretions, and the nutrition of the system is considered, it will be perceived how great a variety of morbid effects any

disturbance of this nervous system may occasion. The meninges of the brain, deriving their power of secretion from it, may become congested or inflamed, giving rise to meningitis; and the brain itself, and the spinal marrow may become involved, giving rise to cerebro spinal meningitis. The nerves of sensation and motion, deriving their vitality from this system, may have their nutrition impaired, and present various phenomena, as epilepsy, cholera, neuralgia and the like, all of which might be remediable by the same treatment until their derangement, at first functional, had continued so long as to become organic.

The theory I advocate, I humbly think, establishes to a great extent the doctrine of the unity of disease. At least it groups together large classes usually considered as distinct, and greatly simplifies the treatment. Of course there are adjuvants that should be brought to the assistance of the main remedy, quinine, and these adjuvants vary with the particular organ prominently affected. I will not cumber your columns with a minute detail of all the diseases (or rather affections) that may result from this cause, nor of the adjuvants adapted to each individual organ, as your readers are, doubtless, fully capable of doing this for themselves. I will only repeat, in conclusion, the proposition already announced, that none of them can be successfully treated without the use of quinine in doses adequate to each occasion.

ARTICLE VII.—*Biniodide of Mercury in Secondary Syphilis.*

By J. M. F. GASTON, M. D., Faxina, Sao Paulo, Brazil.

BINIODIDE of mercury is a powerful irritant poison. It has been used in similar diseases with the proto-iodide, namely in scrofula and syphilis, but is much more active. The dose is a sixteenth of a grain, gradually increased to a fourth, given in a pill, or dissolved in alcohol.—*United States Dispensatory*.—WOOD & BACHE.

Dento Iodure de Mercure.—Il est employé dans les mêmes cas que le proto-iodure, mais à plus petites doses. Il est moins usité.—*L'Officine de Pharmacie Pratiques*.—DORVAULT.

Dento-Iodureto de Mercurio.—Tem as mesmas propriedades que o proto-iodureto, mas he mais energico. Empregado nos mesmos casos, mas o seu uso exige a maior prudencia.—*Formulario*.—CHERNOVIG.

Os ioderetos de mercurio sao dons; o proto-iodureto e o deuto-iodureto. A grande energia d'este ultimo e a difficuldade de administra-lo quasi que o figerao abandonar. En emprego so o proto-iodureto.—*Molestias Venereas.*—CHOMET.

The above declarations of standard authors, in three different portions of the globe, with widely varying climates, must be a fair index to the recognized properties of the biniodide of mercury. This contribution to the meagre stock of information respecting its applications, is the result of the writer's personal experience of its use in Brazil, and may serve to guide others in further experiments with this active, but neglected remedy. It is commended to the special attention of medical men in the more southern portion of the United States, as that climate is similar to this, in which my observations have been made.

The distinction between primary and secondary syphilis is so well understood now, that it will not be requisite to point out the diagnosis in each case presented; and though varying widely in their indications, the characteristics indicated by Carmichael, need not occupy our attention. All the developments may be referred to a peculiar virus, which is to be combatted in the treatment. Whether it be manifested in the slightest of the bronze-colored blotches, included under the seven divisions of Cazenave, or under some more aggravated form, such as the dark leprous scabs, described by Ricord as annular syphilis, all these affections of the skin may be classed as secondary syphilis. In the same general term may also be included the various phagedenic ulcerations of the throat, ulcerated buboes, ulcers of the legs, and indurations with supuration of the testicle, which supervene upon the development of chancres. In whatever form the introduction of the syphilitic virus into the system may be exhibited secondarily, the constitutional treatment must be conducted upon the same general principle of neutralizing this peculiar virus. In regard to the local measures to be adopted after the primary indications shall have given way to secondary phenomena, little more is required than to correct ulcerative action and restore the part to its normal condition by appropriate applications, and the salutary effect of these must depend upon general treatment. Among the various constitutional remedies resorted to with a view to

eradicate the syphilitic taint, the preparations of mercury have deservedly enjoyed the greatest confidence, and in one or another form this article is relied upon by most practitioners.

During a practice of more than twenty years in South Carolina, my dependence in the treatment of syphilitic cases was upon the bichloride and proto-iodide of mercury, with iodide of potassium and sarsaparilla; but three years of professional service in Brazil has shown me that these agents do not secure here the good results that I formerly attained with them, and I have been prompted to resort to more active preparations.

Impressed with the result of cases treated with the red oxide of mercury, which had always been considered "too harsh and irregular in its operation for internal use," and reflecting upon the advantages that might be obtained from some article of like energy, I resolved to use the biniodide of mercury in the treatment of some very obstinate cases of secondary syphilis that were under my care.

With the admonition of the books in regard to this article, great caution was observed in the regimen of the patients, and the words of Boerhave in regard to mercurials generally, may be applied to this article, "*abstine si methodum nescis*. But on the other hand, let us not be deterred from investigating the good effects of a remedy because of the evils that may attend its erroneous application. Guided by the light of experience, and scientific research, we should proceed with boldness tempered by discretion, "*prudenter a prudente medico*."

In entering upon the report of my cases, it may be premised that in every instance, a rigid diet was prescribed, while under the use of the biniodide of mercury, with strict avoidance of exposure to cold and moisture.

A preliminary purgative course was also adopted, and attention was given to the state of the intestinal canal, so as to preserve a laxative effect throughout the treatment.

It was for the most part given in connection with a tea of the *caroua* (an indigenous plant, having a leaf very similar to senna,) as a depurient.

CASE I.—A lady of respectable character had fallen a victim to the irregularities of her husband, and wishing to conceal her

condition as long as possible, suffered the primary indications of syphilis to pass without treatment. She was placed under my charge in the sixth month of pregnancy, with ulceration of the tonsils and soft palate, in addition to the local chaneroid ulceration of the vulva. She was given small doses of calomel followed by epsom salts, on alternate days, for a week; and afterwards treated with iodide of potassium, bichloride of mercury, and protiodide of mercury with quiniæ, making local applications of nitrate of silver to the ulcerations of the fauces and the vulva. Not using the most efficient doses, with a view to avoid abortion, the disease was still in her system, though the ulcerations were nearly cured at the time of her delivery, and the treatment being then suspended for a time, all the symptoms soon became more aggravated. The child also manifested syphilitic eruptions, and hoping to test the mooted point of medicating the child through the mother, my remedy was addressed alone to her. Not caring to report the remedies given previously, I had recourse for the first time to the biniiodide of mercury as an internal remedy, giving it in one half grain with two grains of jalap in the form of pill, morning and night. After using it thus for three weeks, the local ulcerations disappeared, and the eruption on the child had ceased, so that a pill was taken only on alternate nights for three weeks, when the treatment was discontinued, and the mother and child have for more than twelve months been free from any traces of the disease.

With the apprehensions expressed as to this article in standard works, my experiment was made with many misgivings, but finding that no irritation or other trouble attended the use of the remedy, other cases were submitted to treatment with the same medicine.

CASE II.—A man of middle age, had suffered primary symptoms, and became the subject of secondary syphilis, with an ulceration of the throat, which was treated for some months by a medical man with various active agents, among which was the bichloride of mercury; not being relieved, he placed himself under my care. His condition was now aggravated with deep ulceration of the soft palate and general inflammation of the fauces, with swelling of the submaxillary glands and the ab-

sorbent glands of the neck, so that it was with the greatest difficulty that anything was swallowed. He was given twenty grains of calomel at night and sixty grains of jalap next morning, applying nitrate of silver to the ulcerations of the palate and the throat, and making applications of camphoretted mercurial ointment to the external swellings of the neck. After passing one night, the calomel and jalap were repeated in half the quantity, and the local applications were continued daily for a week.

In the mean time, he took iodide of potassium freely, and the general inflammation was lessened, but the ulceration of the palate and fauces persisted. With a view to arrest the phagedenic ulceration, he was put upon the nitro-muriatic acid, three times a day with nourishing diet, and after using this a few days, the character of the inflammation was changed, yet in the farther exhibition of this remedy the parts did not assume a healthy action. Being satisfied that some more potent agent was required to eradicate the syphilitic virus, the biniodide of mercury was given in dose of grain one-half with jalap grains two in the form of pill three times a day. The ulcerative process was speedily changed to healthy granulations, and the work of restoration at the end of ten days was progressing so satisfactorily, that he took a pill only at night for another ten days, and it was only repeated every alternate night to the end of a month's treatment, when the use of all active remedies was discontinued. The man was soon restored to health, but with the loss of the uvula and part of the soft palate.

CASE III.—A woman was presented with very extensive ulceration of the fauces and complete obliteration of the uvula, which was evidently of syphilitic origin. Various measures of treatment had been resorted to during the past two years without relief. She had been subjected even to the "experimentum crucis" of red oxide of mercury without effect, and the case had resisted all the most energetic modes of treating syphilis known to the practitioners here, and the means employed in this country are neither few nor impotent, but of the most violent order. She was very much reduced and had little appetite, attended with difficult deglutition even of fluids, owing to the want of the soft palate and the general ulceration of the pharynx. Owing to the

ravages of the disease and her general debility, the function of menstruation had ceased for more than a year.

The treatment of this case was commenced with ten grains of calomel at night and thirty grains of jalap on the following morning, which was repeated in half the quantities every alternate day until taken three times. She then took iodide of potassium freely for fifteen days with some abatement of the inflammatory action, but without inducing a curative effect. In view of her aggravated state, it was determined to resort to the biniiodide of mercury, of which she took one-half grain with two grains of jalap three times a day for twenty days, and then continued the same quantities night and morning for another ten days, with a good general result as to the ulceration, but yet attended with some sponginess of the gums that induced the suspension of the remedy for a time.

From the commencement of the treatment, local applications of nitrate of silver were daily made to the ulcerated surface of the throat, and now the mouth and throat were washed repeatedly with a solution of chloride of soda.

In the mean time she again took the iodide of potassium for ten days; and the gums having assumed a better condition, while the ulceration of the throat continued, resort was had to the more active remedy for the control of the symptoms. A pill of the biniiodide of mercury grain one-half and jalap grains two was given at night and in the morning for a week, and afterwards at night only for another week, with the continuance on alternate nights for two other weeks, when the ulceration had disappeared and the medicine was discontinued.

In the administration of this remedy no special irritation was induced, and it was even requisite to administer an increased portion of jalap occasionally, to procure proper evacuations.

With a view to restore the waste of body and exhaustion of strength incident to her long continued disease, she was directed to take nourishing food; while a solution of sulphate of quinine with nitro-muriatic acid was given regularly three times a day for two weeks. This was beneficial in its general tonic influence, but the menstrual function not being restored, it became necessary to adopt a special course of treatment for this end; and a combination of calomel, aloes and rhubarb, each, grains five, was given every alternate night, until taken four times. Profuse

salivation, with the concomitant effects of mercurialization on the general physical system, was induced by the administration of these twenty grains of calomel, which in the comparatively healthy tone of the organism, produced more of the specific influence of mercury than had resulted from the use of nearly a drachm of the biniodide of mercury, when there was a syphilitic taint in the system to be combatted by the remedy. A purge of castor oil and spirits of turpentine, with lotions of spirits of turpentine to the mouth and throat, and the use of green tea internally, relieved the mercurialism in a few days. She took subsequently the following mixture :

R Sulph. fer., aloes e pulv. myr. $\hat{a}\hat{a}$ 3i; aqua font. $\bar{3}$ xvi. Mist. and take in dose of a tablespoonful three times a day. Her general health was restored, and the monthly flow was re-established, so that nothing farther was requisite, and the case was discharged. The loss of substance from the syphilitic ulceration of the fauces is considerable, but is not accompanied by any marked defect of the voice or in deglutition. Though the treatment in this case was varied and tedious, occupying in all nearly six months, yet it is evident that the biniodide of mercury was the efficient agent in eradicating the taint of syphilis, that so thoroughly pervaded her system, and that had resisted previously other potent agents.

CASE IV.—A man who had suffered with local indications of syphilis previously, presented that species of eruption known as mucous pustules, which is placed by Alibert in the class of secondary phenomena, but by other writers regarded equivocal, and by some as a primary indication. In any view of this affection it is clearly a constitutional syphilitic eruption, and requires general treatment for its cure. This disease is so widely disseminated here as to justify the received opinion of the people, that it may be propagated by contact independent of sexual cohabitation, and from neglect or improper application of remedies, it often proves a very obstinate disease.

Commencing the treatment of this case with a purge of calomel and jalap, resort was had to the pills of biniodide of mercury, gr. $\frac{1}{2}$ and jalap grs. 2, three times a day for ten days, and afterwards one, night and morning, for the same length of time, with one at night for the remaining ten days. All the traces of disease had disappeared, and the case was dismissed. Having treated other cases with different remedies, and comparing the results with this, the biniodide is preferred.

CASE V.—A negro man was presented by his owner with extensive ulcers on the anterior and internal parts of the ankle, and was said to have suffered thus for some ten years, owing to a syphilitic taint in his system. Various measures of treatment had been resorted to without a salutary effect, so that he was entirely unfitted for service.

His treatment was commenced by a course of purgation with calomel and jalap, and the two large excavated ulcers with indurated margins were thoroughly cauterized with nitric acid, which was repeated from time to time in the further prosecution of the treatment, applying in the intervals, at first the citrine ointment, and afterwards the basilicon. After securing the effect of the purgative, he was put upon the pills of biniodide of mercury, gr. $\frac{1}{2}$ and jalap 2 grains, three times a day at the outset, and afterwards morning and evening, with evident improvement of the ulcers. With occasional interruptions, this remedy was continued for five months, manifesting a most salutary result in the cure of the ulcers and in the restoration of the general health of the patient. This case was subjected to most rigid diet and strictest regimen during this protracted use of the remedy, and was a complete test of the tolerance of this active agent, at the same time that it affords a proof of its efficacy in this class of diseases.

CASE VI.—Another case of extensive ulceration of the leg, in the person of a negro woman, was placed under my charge by her owner, with the statement that it was of syphilitic origin, and had been progressing in one or another form for a number of years. She had already been submitted to various courses of active medication, including a prolonged use of the bichloride of mercury, but without any permanent advantage, and her state had become so aggravated as to unfit her even for household services. In addition to a large, ill-conditioned ulcer on the outer part of the leg, immediately below the knee, she had on her arms, face and neck, an eruption of indurated pustules that were evidently syphilitic in their character, and which had accompanied the rough, irregularly sulcated ulcer of the leg.

She was ordered to take calomel and jalap for two successive days, and then being comparatively free from indications of irritability, the acid nitrate of mercury, without dilution, was

applied to the entire ulcerated surface on the leg. Great pain attended the application, and subsequently considerable febrile excitement was developed; for the relief of which, she was given a full dose of epsom salts, and linseed poultices were applied to the irritated and swelled leg. In a few days, this disturbance had passed, and the constitutional treatment was entered upon with biniodide of mercury, gr. $\frac{1}{2}$, and jalap, grs. 2, three times a day, while the citrine ointment was applied to the ulcer already revived by the former active application.

This course of treatment being kept up for three weeks, the ulcer was almost closed, and the syphilitic tubercles had nearly disappeared, so that a pill was given only at night, and a mixture of citrine ointment with basilicon was applied to the ulcer during another week, when local applications were no longer required, and the use of a pill every alternate night for fifteen days longer, resulted in the disappearance of all traces of the disease, and she has returned to her regular duties as a household servant.

This case affords the clearest evidence of the salutary effect of the biniodide of mercury, as no other remedy was used which could have produced the result; and the disease having resisted other potent internal and external means, the efficacy of the agent now employed is shown conclusively.

CASE VII.—Induration with enlargement of the testicle, subsequent to indications of syphilitic chancre in the person of a negro, had existed for nearly a year, when he was placed under my care, and though the case does not belong regularly to the category of which this paper treats, it may be considered as secondary syphilis in view of the duration and the obstinacy of the inflammation in the prostrate gland. As usual, he had been put upon the most abstemious diet, and subjected to the most powerful purgatives, with the subsequent use of various preparations of mercury, and yet from want of system in the application of the remedies, failure was the result.

A preliminary course of ten grains of calomel at night, and thirty grains of jalap next morning, every alternate day until taken three times, was accompanied with the local application of camphoretted mercurial ointment, and subsequently he took biniodide of mercury, gr. $\frac{1}{2}$, with jalap, grs. 2, in the form of a pill, three times a day for a month.

In the mean time, an additional dose of jalap was occasionally administered to procure regular evacuations. With the use of these remedies, the induration was lessened, and the size reduced, while there appeared at the upper anterior portion of the gland, a fluctuating point, from which pus and a sanguinolent fluid were discharged by an opening with the lancet. Poultices were applied to secure a new prompt evacuation, and afterwards with the use of the comp. iodine ointment, and the continuance of a pill every alternate night for another month, the discharge ceased, and the gland was restored to its size, and normal condition. The successful application of the biniodide of mercury in this and another similar case, suggests the propriety of its administration in obstinate cases of indurated enlargement of the mammary gland and ovaries in females, and also in chronic indurations of the liver, which are by no means infrequent in this country.

Other cases, varying in their characteristics, have been successfully treated by this article, during the past two years; but these reported, may serve to illustrate the application of the remedy in this class of diseases; and all my observations thus far, warrant me in recommending the biniodide of mercury to the attention of the medical men as an efficient and safe agent in the cure of secondary syphilis*

ARTICLE VIII.—*A case of Difficult Diagnosis of Strangulated Inguinal Hernia.* By EDMOND SOUCHON, M. D., Assistant to the Professor of Anatomy, University of Louisiana, and Visiting Surgeon to the Charity Hospital, New Orleans.

DURING the month of June, I was called, in consultation by a physician of the city, to see a man, about fifty years of age, laboring under all the evil symptoms of an intestinal obstruction. He had been carrying for many years, a scrotal tumor, about the size of a goose's egg, which had never caused him any pain. Upon seeing this tumor, the attending physician thought immediately of a strangulated hernia, but upon learning that the tumor had existed for a long time without any marked change

* It may be stated that the city of Faxina, in the province of Sao Paulo, where my observations have been made, lies to the south of 23° 31' south latitude, and hence is in the temperate zone. In the latter part of the month of June, heavy frost, and even ice, has occurred for several successive nights, so that the climate is not widely different from that of New Orleans, and other more southern portions of the United States, and my experience here may prove useful to those practising in that region.

of size, that it had grown gradually, and that there was at this present moment, no pain nor any trouble in that region, he dismissed his first idea, and thought that the obstruction must be in the abdomen. It was at that time we were called in consultation. The patient presented, as we have said above, all the symptoms of an intestinal obstruction. Upon examining the scrotum, we found the tumor above mentioned, which was of a lardaceous consistence, perfectly dull upon percussion and totally irreducible. The root or pedicle of the tumor seemed to be prolonged through the inguinal canal, and upon examining this spot most attentively we detected a slight gurgling and a weak, clear sound upon percussion. This convinced us that there was there an intestinal convolution which was strangulated, co-existing with an old tumor of the scrotum. Accordingly, we proposed the operation at once; but the attending physician opposed this diagnosis, not having detected the gurgling and the tympanitic sound to his satisfaction.

It is remarkable that from the moment of our examination, those two important signs could never be detected again.

In this state of uncertainty, two other physicians were called in consultation, but they did little to establish a diagnosis, as one of them was of the opinion of the attending physician and the other one of my opinion. The patient's position grew from bad to worse, and he finally died thirty-six hours afterwards.

The post-mortem examination showed a small intestinal convolution, surrounded by, or imbedded in, a fatty tumor (which on the bulk of the scrotal tumor) strangulated some distance below the external opening of the inguinal canal, by the neck of the sac, adherent to the bottom of the sac by strong cellular attachments, and completely empty of fluid or gas.

This case, therefore is one of an old hernia, with a fatty degeneration of the sac. The difficulty of the diagnosis, was caused by the thickness of the fatty walls which surrounded the intestine, by the obscurity of the history of his scrotal tumor, that could be got from the patient, and also by this fact that the gurgling and the tympanitic sound could not be detected after our examination; it is very possible that the manifestations had then forced the fluid and the gas into the abdomen.

CORRESPONDENCE.

A reply to an Article of DR. DELÉRY published in the April number 1870, of this Journal, by DR. FAGET.

“Númerandæ et Perpendendæ Observationes.” MORGAGNI.

IT would be neither just nor proper that our confrères on the other side of Canal street, as well as the American physicians at large, should hear only Dr. Deléry, on the question of our old polemic upon “the yellow fever of the creoles of the city.” I then resolve to enter upon the subject, but it will be in the appropriate manner and language becoming the respect that we owe to Science, and to ourselves.

After having said, in my article of October, 1869, that the *hæmatemesic paludal fever* had scarcely been met with at New Orleans prior to 1853, but had since been observed, in a *sporadic form*, each year and during all seasons, and *epidemically* three times (1853, 1858, 1867), in order to afterwards explain how it was that the two historians of our last epidemics did not even allude to it; I was forced to show that they had confounded it with yellow fever; which is not at all surprising.

Being persuaded that this fever does not exist, Dr. Deléry passes silently over the subject, and considers his silence as a sufficient argument to prove that it does not exist. In fact, having headed his article of April, 1870, *Sic*: “*Brief remarks upon Dr. Faget’s malarial catarrhal hæmorrhagic fever,*” he afterwards forgets but one thing, which is to speak of it. Furthermore, in ending he says: “I withdraw from the lists, . . .” p. 301; which would seem to intimate that he even definitively gives up the burden of tasking himself therewith; in which he is at liberty, and, perhaps, is not wrong.

Instead of the “*Brief remarks upon . . .*” quite lost sight of as soon as announced, the doctor has endeavored to present “a summary of our protracted debates,” *i. e.*,—a statement, *after his way*, of our polemic, with a self-rendered judgment. We will now, in return, have a few words to say.

At first, we must admit that, in this personal appreciation of our old polemic, our confrère might have been more modest. "Having lost his suit before the medical corps of Franco-creole origin, Dr. Faget now appeals etc., . . . page 297," Who says so? . . . Dr. Deléry? But, in reference to our medical corps, of Franco-creole origin, numbering from twenty-five to thirty members at most, amongst whom several are undecided, and Dr. D., *himself*, allowing me twelve, "a dozen excepted," p. 299, all which he would have been justified in advancing, was that, since 1853, but never before, the creole physicians have been divided in opinion, and divided, in almost equal numbers, upon the question of "the yellow fever of the creoles of the city;" this is the whole truth. Besides, even should it be otherwise, is it at the *ballot-box* that questions of Science are to be decided?

Instead of *opinions*, let us rely upon *facts*, and let us discuss them calmly. "*Numerandæ et Perpendendæ Observationes*"; this is the motto of the Medical Society of Observation of M. Louis, our illustrious and venerable master, a Society of which I have the honor of being a Fellow. Then, let us *count* and *weigh*. First, let us count; we will weigh afterwards, if there remains anything to weigh.

The facts, presented as facts of "yellow fever of the creoles of the city," are they numerous? It should be admitted that we can refer only to those which are published, for they are alone subject to the control of all. According to Dr. Deléry, Science can enumerate fifty cases. "I will quote but one, from amongst fifty; p. 298." Fifty cases! It would be few, for seventy-five years of epidemics, on which we possess *medical records* since 1817. After all, as few as they may be, let us then seek, for fifty-three years, from 1817 to 1870, in those diverse *records*, let us seek for the *fifty* facts to which our confrère alludes.

In the *record* of 1817, none; in that of 1819, one, which is that of Dr. Miltenberger, that we formerly disputed. In the *record* of 1839, none; in those of Dr. Fenner, one, for 1848; it is the fact of an intermittent fever, with black vomit at the fourth or fifth paroxysm, a fact that I have reproduced, p. 780 of my first article (October) in this *Journal*. In the *Précis Historique* of Dr. Deléry, on the epidemic of 1858, one; I have elsewhere discussed

this fact, and, Dr. Hegewisch, former Physician-in-Chief of the Military Hospitals of *Vera Cruz*, who saw the case, declared that he did not consider it a case of yellow fever.

Finally, in his pamphlet on the epidemic of 1867, after having made an appeal to the medical corps at large, to which appeal seven confrères made an answer, Dr. Deléry has succeeded in collecting fifteen observations, which he gives as *facts* of yellow fever of the creoles of the city, in a chapter entitled "Observations of Yellow Fever of the Creoles of the City," from page 69 to 96, of his *Mémoire sur l'Epidémie de Fièvre Jaune de 1867*.

I will not return here to the cases published from 1817 to 1858, of which here is the numeric resumé: "(1817-0-) plus (1819-1-) plus (1839-0-) plus (1848-1-) plus (1858-1-) = 3. I will only say that, from these three cases, one alone was worthy of discussion, *i. e.*,—the first, (1819).

Now, was there ever seen a more exceptional fever than this? A fever, of which, during many very severe epidemics, the *Annals of Science*, for fifty years, have been enabled to collect but a single doubtful case!

Let us then pass to the *fifteen observations* of the *Mémoire sur la Fièvre Jaune de 1867*, collected by eight physicians, and let us begin by the last ones.

The 15th, page 96, is that of a griffonne negro girl of 18 years, born in Alabama.

The 14th, page 93, is that of a child of 5 years, born at Opelousas, La.

The 13th, page 92, is that of a child of 6 years, born in Kansas.

This is not all; the 10th or 9th, page 87, is that of a child *born* in *France*; the author of the two observations, having first neglected to specify the nationality of his patients, forgets next to state which of the two is born in France. . . . But, finally, one of the two, whichever, is born in France; for our purpose, it is all that we desire to state.

In sum, here are already four observations that we are absolutely compelled to deduct from the cases presented by our confrère as cases of "yellow fever of the creoles of the city;" we are in duty bound so to act, since the subjects that furnished them were not born in the city: (15-4=11).

Now, from the eleven remaining observations, it is impossible not to deduct three others, (the 12th plus the 11th, and the 10th or 9th), for in them we cannot but see instances of this benign form of ephemeral fever which does not admit of any classification. All fevers, in fact, the paludal as well as yellow fever, like variola itself, present such examples of mild cases in their catalogue that would not be wrongly classed in this same catalogue of mild cases of all kinds of fever. Consequently : $(11-3=8)$.

But, perhaps, Dr. D. will make here the following objection : In the three last cases there was a regular decrease of the pulse from the first or second to the third or fourth day ; now, is it not Dr. F. who proclaimed that this is "the characteristic of yellow fever ?"

It is true. But I went further. Had I announced but this, I would have committed an absurdity, since it would follow that all cases of ephemeral fever are cases of yellow fever. At page 84 of my pamphlet, published in 1859, I have expressed myself more fully on the subject, as follows : "The regular and rapid decrease of the pulse in yellow fever is such, from a collection of nearly a hundred cases already observed, that it will probably be admitted that this regular and rapid decrease of the pulse constitutes the essential character of yellow fever. In fact, I am not aware that there is another acute disease, of a *grave* type, in which the febrile reaction falls so soon, so rapidly, and with such uniformity."

It is not less surprising to see Dr. Deléry, whilst so scornfully rejecting this character, for which he doubtless has his own reasons in calling it "*the fall of the pulse*"—(*la chute du pouls*)—, still be reduced to the necessity of using this very same character, in order to class, under the heading of yellow fever, the simplest and mildest types of ephemeral fevers, and thus increase his meagre collection of so-called facts, which he terms cases of "*yellow fever of the creoles of the city*."

But, from subtraction to subtraction, being reduced to eight, the fifty cases advanced by our confrère, should we keep on, would finish by disappearing, and nothing would be left us to weigh. Let us be then speedy in the weighing of these eight last remaining cases.

The first that comes forward is precisely the only one that Dr. Deléry engages me to examine, page 298: "I will quote but one case from among fifty, a truly typical case of typhus ichterodes—published in my memoir of 1867, page 69." "Will my colleague oblige me by informing me what symptom of yellow fever is wanting in the tableau drawn in this observation."

Well; the first thing, to my eyes, *wanting in this tableau*, is that it has remained unfinished. . . . "The 20th of October, fourth day of the disease, the physician who began to trace the tableau, ceased to see the child, which died but on the 22d, and the physician who took charge of the case, being also a very well informed gentleman and of much experience, declared that, he considered the case to be an "hæmorrhagic malarial fever of bilious form." It is not I then of whom should be asked the lacking information, I, who did not see the case. It is not less evident, however, that the difference of opinion, that existed between the several witnesses of this particular case, diminishes strikingly the weight that this observation might have had. Matters being thus, it would have been better not to have reported the case, and to have left it in the dark. Besides, even what is reported of the four first days, must leave much doubt in the mind of all impartial readers. The pulse at 112 the 1st day, rises to 116 the 2d day, falls and remains at 112 all the 3d day, and the 4th, is again at 104. This is a very unusual result in genuine yellow fever, *unusual* in the proportion from 3 to 128 or from 1 to 42. Next, that the *yellow color of the cadaver* might be of much importance, it should have been necessary to have been able to certify that there did not exist, with albumen, any *biliverdin* in the urine; but, not a single word of that, etc., etc. How desirable then would it be that our adversaries should give themselves the trouble of becoming familiar with English pathology on the subject that divides us. We could not too highly recommend them to meditate especially upon the chapter of "Malarial yellow fever" of Dr. Aitken, "that fever where the febrile movement resembles the *continued*, where there is *yellowness of the skin*, where there is even *black vomit*, and which, however, *must be* separated from real yellow fever, because the febrile phenomena are due to malaria." Page 511, vol. I.

This simple citation, borrowed from Professor Aitken, dispenses me from examining in particular the seven succeeding observations, the only ones that present some symptoms of yellow fever. I will only remark that they are signed by four physicians, without the name of Dr. Delery being attached to a single one.

So then, in his pamphlet of 1868, upon the "EPIDEMIC Yellow Fever," and, in particular, "of the Creoles of the city," in 1867, Dr. Delery has been unable to furnish a single observation collected by himself, that presented some feature of yellow fever. Moreover, from the contribution of seven of his confreres, three, as well as he, have not been able to furnish anything that resembled it, and finally the four others, have given seven observations that constitute the real basis of this collective work; moreover, these seven observations are, according to me, facts of the "Malarial yellow fever" of Aitken.

Now, then, the conclusions obtained by the labor of our confrere, are unavoidable and are very plain; let us draw them for him: 1st. If it be admitted that the seven or eight observations which constitute the whole base of this labor, on account of their being the only ones that present some analogy to yellow fever, if it be admitted, what I deny, that they are observations of real yellow fever, they are a proof that this fever is quite exceptional among creoles, even during the greatest epidemics of yellow fever, . . . since eight physicians having applied themselves during four months of a great epidemic, that of 1867, to collect as many cases as possible, I suppose, have not been able to furnish but seven or eight doubtful and contested cases.

2d. If, on the contrary, it be admitted, as is my opinion, that these same seven or eight observations appertain to paludal fever in its hæmorrhagic bilious form that resembles yellow fever, we are forced to acknowledge that even this fever, when it simulates yellow fever, is still a rare thing here, an exception, since eight physicians who have tasked themselves, during an epidemic of yellow fever, to discover cases of it amongst the Creoles of the city, have succeeded in collecting but seven or eight observations of this paludal fever presenting some analogy with yellow fever.

This *Memoir* has then precisely proved the opposite of what its

author was anticipating ; it has proven : 1st. That if yellow fever attacked the Creoles of the city in 1867, far from attacking them in an epidemical manner, it has only attacked them in rare, in exceptional cases ; 2d. That the cases of hæmatemesic paludal fever *resembling yellow fever*, after all, must, during this epidemic, have been sufficiently rare and exceptional.

Had it been otherwise, how explain that eight observers, in search of observations of "yellow fever of children of the city," should not have succeeded, during four months of an epidemic prevailing widely among children, in collecting but seven or eight observations, according to them of "yellow fever of children," according to me of "hæmatemesic bilious paludal fever," resembling a little yellow fever ?

In fine, what is rendered evident, by our analysis, is this : if yellow fever has prevailed epidemically among the creole children of the city, in 1867, it is not in the pamphlet of Dr. Delery that we must look for the evidence ; for it is the proof of the contrary that we find there.

I regret, but perhaps it has not been without good, that Dr. Delery has compelled me to criticize, even so briefly, his pamphlet on the epidemic of 1867. It is at this publication that our polemic had ended in 1868, and I had never had since, the opportunity of making its analysis, only announced at that time. Hence, some illusions, perhaps, on his part.

Now, to terminate, I ask the permission of briefly putting matters in the light that they appear to me, instead of leaving them as my confrere has just represented them.

In my first and second letters of 1859, upon yellow fever, I treated the questions of contagion and importation ; it is but in my third letter, read before our Society, in January, 1860, that I for the first time, touched upon the subject of "the yellow fever of the Creoles of the city," and it was in an answer to a Dissertation of Dr. Delery upon that subject.

Now then, here is the ground upon which I stood, and what were the sentiments that I expressed at the outset of this polemic : "When I maintained the opinion that the creoles of the city do not have yellow fever, I did not mean that they could not have it. . . . Upon such a question, there can be no absolute law,

there can exist but rules, and rules with exceptions." (2d letter, page 208, January, 1860.)

My adversary having endeavored to prove, by arguments, what was the sentiment of the authors of the *Memoirs* of 1817 and 1819, upon this subject, and even pretending to have there discovered the proof "that it was then unanimously admitted that the creoles were subject to yellow fever," (page 142 of his dissertation), I cited, word for word, the passage wherein the authors give their opinion; here it is, page 42: "The natives are not ordinarily attacked, with few exceptions, and yet, very few in number."

As will be perceived, this is precisely the opinion which I have adopted, at the starting point of the discussion, the same opinion that the last *Memoir* of Dr. Deléry, for 1867, succeeded in proving, contrary to the intention of its author.

As to the medical generation to which Dr. D. and I belong, here are, with the precise dates, how things took place. The first epidemic which we both witnessed was that of 1847. Now, during that epidemic, as in all the preceding ones at New Orleans, the creole children were not affected; we were both witnesses of this negative fact, which nothing can render obscure.

What I refer to here proves not only that, during the first half of this century, yellow fever has never prevailed epidemically among the children of the city, but, furthermore proves that, during this period, the opportunity was not presented to observe *epidemically*, black vomit in the children of the city, in whatever fever you can imagine. In fact, if black vomit had been a familiar occurrence with our children, as it was considered as the characteristic of yellow fever by the physicians of that period, they would not have wanted facts to establish the existence of the epidemic yellow fever of the children of the city; now, as we have observed, such facts are totally wanting.

Must I again call to mind the evidence that black vomit, for the physicians of that time, was the characteristic of yellow fever? 1st, *Memoir* of 1839, page 160: "Black vomit,—that pathognomonic symptom." 2d, *Memoir* of 1844,—Epidemic of Woodville,—by Drs. Valetti, Beugnot, etc: "The description

of the disease leaves no doubt: pulse frequent, soft, pain of the⁶ back and vomitings which assume the "specific character." My *Memoir* of 1868, Dr. Fenner: "A child has an intermittent fever; at the fourth paroxysm he vomits black; until then, the physician had not suspected yellow fever."

It is then in 1853, for the first time that, during the prevalence of an epidemic of yellow fever, we saw the children, creole as well as stranger, *colored as well as whites*, attacked epidemically with a fever, during which black vomit was quite frequent.

The sentiment of physicians in general being, yet in 1853, what we have pointed out, with regard to the diagnostic value of black vomit it was scarcely possible that the majority should think otherwise but that it was yellow fever that the children were affected with.

In whatever hypothesis, it was a *new fact*:—for the majority, it was the first time that they saw yellow fever prevailing epidemically and fatally among the children; for the lesser number, it was the first time that a new epidemic fever, with black vomit, was prevailing fatally among the children, which was not yellow fever but a new fever.

I classed myself amongst the lesser number, and here is through what series of ideas I passed:—1. I had first learned in the authors, that, as a rule, i. e., as a fact, yellow fever spares childhood; I knew also what the anterior experience of all had been at New Orleans upon this point, since more than fifty years, finally I had seen the epidemic of 1847, which, as all the preceding epidemics, spared childhood entirely. 2d. From that time I undertook the study of the black vomit in fevers, and I then learnt that it had been frequently met with, particularly in the paludal fevers of warm countries. 3. Nerved by this information I undertook the observation of the fever of our children, during the epidemic of 1853, and I recognized that they were paroxysmal fevers, and that quinine arrested them.

During the epidemic of 1853, I made a trial of the effects of quinine in the genuine yellow fever of strangers, as well as in the fevers with black vomit, of our children, and I obtained the proof by experiment that the opinion of Chervin, as stated in

his Work upon "The Identity of Nature of the Fevers of Paludal Origin," is without foundation; the experiment was double and conclusive—1st. Yellow fever is not a paludal fever. 2d. The fever, with black vomit, of our children, was a paludal fever.

This is not all; from 1853 to 1858, even during the winter, I have met with a certain number of cases of fever, (over thirty in number) with black vomit in young children. I have treated all those cases with quinine, and lost only one patient. Such a result dispels any idea of yellow fever, for, in that fever when black vomit occurs, death is almost certain.

I will now state my observations during the epidemic of 1858. At the end of the month of May, Dr. Delery was kind enough to invite me to see with him a case of yellow fever on Barracks st. about four or five squares that is to say, a distance of twelve or fifteen hundred feet from the ship Elizabeth Ellen, from which ship it has since been proved that the first cases of yellow fever originated in 1858. During the month of June, the epidemic nucleus spread in the vicinity of the said ship, to such an extent that in July, the epidemic had reached its maximum in the French or creole portion of the city and during the two first months of this epidemic yellow fever there were no creole children affected with it.

About the 15th of August, the waters of the great crevasse of 1858 opposite the city began, to recede. The first instance of black vomit I saw that year, was in a native, or creole person, a few days later; it was in the case of a young boy, Harang, belonging to a creole family. This child had been taken with fever on the plantation just when the waters of the crevasse were withdrawing from around the family dwelling opposite the city. A few days later his father an aged creole, well acclimated, being taken down with the same fever, was brought to the city to be attended to also. In his case the fever had first assumed the dysenteric form but soon after he was taken with black vomit; just as his child had been; he took quinine in full doses, as his child and both soon were convalescent.

It was from this time, the middle of August, that the paludal fever with black vomit affected epidemically the children of the city whilst yellow fever had already, for nearly two months, prevailed epidemically in our creole section, without attacking them

It was then that I began to collect facts, and it is with them, and and also with the general data taken from the authors, that I composed my *Etude* of 1859.

At about the same time, the epidemic of Lisbon, of 1817 confirmed upon a large scale the general fact that yellow fever is more than benign with regard to children: "Like cholera yellow fever has generally spared infancy in Lisbon—19 boys and 12 girls only below 11 years, were attacked; seven died. [From the 15 children coming from the Orphan Asylum, one only died. On the contrary, there were 1269 victims from 11 to 20 years; 1734 from 20 to 30 . . and 253 above 60 years—(1269 *plus* 1734 . . *plus* 253 = 3256.)"—*Gazette Hebdomadaire*, April, 1859.

As the number of deaths from 30 to 60 was omitted, we may suppose that there were 4000 victims in that quarter of Lisbon, in 1857. On the other side, there were but eight deaths below 11 years and consequently, only four below 5 years. So that, at Lisbon in 1857 out of 4000 victims, there were but 4 deaths below 5 years or 1 out of 1000! At New Orleans, in 1858, there were 100 deaths of children, of the same age, per week, out of 400 deaths of adults, i. e., 1 out of 4! Is it possible to admit that the same fever could be so opposite to itself? making one victim out of 1000 in a city, and one out of 4 in another city! Accordingly, if it was yellow fever at Lisbon in 1857, it was not this same fever raging among our children of New Orleans in 1858.

I hope now that it is proved that when I said "I did not believe that young children were subject to yellow fever," my belief was founded upon facts, and was confirmed by facts. However, it pleased Dr. Delery on that subject, to say: "Instead of starting from a fact to come to a belief, Dr. F. starts from a belief to arrive at a fact." P. 298.

In 1858, the epidemic fever that prevailed among the children was of a more grave character than that of 1867. According to those who did not, this year, make use of the *specific*, it was even of as grave a character as yellow fever; an evidence of which we give in the following extract, taken from an article of Dr. Alfred Mercier published in 1858, at Paris: "Those who believed that the creole children were affected with a paludal fever, during the epidemic of 1858, said: "we made use of quinine, and the rule was

that it cured ; therefore it was a paludal fever." Their opponents replied : " but we treated it without quinine, and *it was cured in the same ratio as yellow fever* ; therefore, it was not a paludal fever." *Gazette des Hopitaux*, 4th Dec. 1858.

Now in adopting the ratio of 1 death out of 5 for yellow fever in 1858 (in private practice, for at the Charity Hospital it was 1 out of 2 !) we are far from exaggerating ; whilst, on my part, owing to the use of quinine I lost but one out of 40 of the children, taken with the epidemic fever in private practice. I have given the proofs of this fact at page 49 of my pamphlet of 1859. The loss of 1 out of 5 for those who did not give quinine to the children in 1858 is an evident proof that the fever, left to itself, or treated without quinine was as fatal as the yellow fever of that year ; the loss of 1 out of 40, for those who treated it with quinine proves that this same fever, of as serious a character as yellow fever was of a paludal nature ; since it yielded to the paludal specific to such an extent that, with it, the cure became the rule : 1 out of 40 instead of 1 out of 5 !

In 1867 the epidemic fever that prevailed amongst the children was of a much less dangerous character than that of 1858, the number of cases of a mild, benign, ephemeral form, being very numerous. Dr. Delery, who considered that benign fever of 1867 as yellow fever "lost, that year, 1 out of 30 of the children which he attended and 1 out of 12 of the strangers afflicted with the same fever according to him." (*P. 26 du Memoire sur l'Epidemie de 1867.*)

As to the yellow fever of the strangers, the success of Dr. Delery (1 out of 12 !) in 1867, must have been quite exceptional. With me, instead of 1 out of 12, the loss, in 1867, has been 1 out of 4 for the strangers attacked by the epidemic ; and the confreres whom I have addressed upon that point, have admitted to have lost the same average—1 out of 4.

On the contrary in 1867 the results of my practice have been more lucky than ever with children : during the four months of the epidemic, I had to sign in my private practice but five mortuary certificates of children, of which the respective ages were, 5 months 6 months 16 months, 3 years and six years. In the two Institutions of which I am the physician, the " Good Shep-

herd" and the "Boys Orphan Asylum," I did not lose a single patient. Still at the Good Shepherd, during the epidemic, 39 young girls were taken down with the symptoms of the prevailing fever; only one threw up black vomit. At the Boys Orphan Asylum out of 400 young inmates of the house at that time, 115 were taken down with the symptoms of the prevailing fever from July to November; one only had black vomit. I here say, is it admissible if the children of these two institutions had had yellow fever that such a result would have been obtained? Again, I will here as a passing remark, observe, for the guidance of those, who accuse quinine of producing black vomit (for there are such persons); that of the 150 children attacked in the two Asylums during the epidemic fever of 1867, all took quinine, in the average of 15 to 30 grains per diem that two only threw up black vomit, and that all were cured.

For the last ten years I have, several times, published the results of my labors on the fevers of New Orleans, and I have constantly met a decided opponent in Dr. Delery-. Certainly I should have esteemed myself fortunate had I found in him a serious and attentive adversary, or, in other words, one sufficiently scrupulous not to charge me continually with assertions I never uttered.

But the typographical errors in Dr. Delery's polemic writings, and the evident want of attention which he constantly displays; whilst touching upon matters of capital importance, are very strange.

We will not mention again errors of the same kind which have appeared in his former writings; we will merely refer to the five pages of his last article, which appeared in "The New Orleans Journal of Medicine," for April, 1870.

Examples—1st. Instead of "the regular decrease of the pulse from the first or second, to the fourth or fifth day in yellow fever," we read at the top of the page 300, "the decrease of the pulse from the first to the second, fourth or fifth day in genuine yellow fever," as the general fact which I have made known in page 84 of my *Etude* of 1859. This is what Dr. Delery is resolutely determined to call "the fall of the pulse"—(*la chute du pouls*).

2d. As to the alteration of the muciparous crypts of the stomach and duodenum, that renders them visible to the naked eye in the mucous form of the hæmorrhagic paludal fever, in those parts where, in their normal condition, they can only be seen by means of the microscope, Dr. D. relatively to them, says not a word, and perseveringly busies himself with a certain "catarrhal matter."

With regard to the question as to the alteration of the muciparous crypts of the stomach and duodenum, it may be well to show how incorrectly Dr. Delery, in his last article, makes me express myself:

"There now remains the question of the presence of 'catarrhal matter' which Dr. Faget holds out as the property of his 'malarial catarrhal' fever. Point out, said he, those passages of my Memoirs of 1817 and 1819, in which I have ascribed to yellow fever, the mucous hypersecretion, the presence of which has so much struck me in the malarial catarrhal fever, which I have been studying since now many years. Dr. Delery will then appreciate the peculiar interest which I attach to this question." (P. 300 of the N. O. Journal of Medicine, April, 1870.)

MY MEMOIRS of 1817! . . . But, I was not born at that time.

Moreover, all the foregoing quotation has no sense whatever, Dr. Delery endeavors here to make me contradict myself, and there was only one method for him to attain his end, the one which he constantly employs when he does not wish to be refuted. . . . This method consists in rendering his language incomprehensible. . . . Now, instead of this, Dr. Delery's unintelligible quotation, here is a straightforward history of the things I adduce. In my pamphlet published in 1859, at page 46, in the chapter relative to Anatomical Lesions, I describe those alterations of the muciparous crypts of the stomach and duodenum, which, anatomically, characterize the mucous form of the hæmatemesic paludal fever. I have never been able to make Dr. Delery understand that these above mentioned alterations signified more than a "mucous hypersecretion," and particularly so, in connexion with that "catarrhal matter" to which the Dr. continually alludes.

The text of my pamphlet at page 46, reads thus: "On examining five corpses, that which struck me the most was the state of

the muciparous crypts of the digestive tube; in parts where they are not seen in their normal state, they were found in great abundance, taking the form of a "*confluent eruption*." And, at page 47: "The quantity of mucus secreted by these *follicles*, or *hypertrophied crypts* was wonderful; on several portions of the gastric mucous membrane this *mucus* was spread in concrete layers, in such a manner that, after having lightly scraped it off, I thought that I had removed the mucous membrane itself; which was not the case, for, in scraping again, I removed a fresh coating of mucus, beneath which, I frequently found at last, the mucus with its normal consistency."

As must be perceived, the question here was one of *anatomical* or *cadaveric research*. Now, in the *Memoirs* of 1819, there is no *post-mortem* examination whatever; and, in that of 1817, there were two autopsies, but no mention exists of a "mucous hypersecretion," and still less of a "*confluent eruption of the mucous crypts*." . . . I knew this perfectly well, and on this account I asked Dr. Delery to state the number of the pages of the aforesaid *Memoirs* in which frequent mention is made (as it has been textually advanced by him) of that "mucous hypersecretion," and apparently also, of that "eruption of the mucous crypts," which had astonished me so much in my *post-mortem* examinations at the asylum, and to which I attached such peculiar interest. .

It was on this occasion that Dr. Delery gave me the answer which he now, in his last article, (page 300, April, 1870, New Orleans Medical Journal) which he now calls "the satisfactory response which I made to this challenge," but, which, at present, he is careful not to reproduce. I may be allowed here to represent it, in order to state what was this "satisfactory response," which may be found at page 282—12th June, 1870, of the Journal of our old Society. "In the *Memoirs* of 1817," says Dr. Delery, I read the following words: "Thirty grains of ipecac produce vomiting four times of bilious and *slimy stuff*, and two stools of the same nature." Page 25. "Vomiting of viscid and acid matter." Page 56. "In the *Memoir* of the epidemic of 1819, we read equally: "Nausea and vomiting at times of *slimy stuff*." Page 12. "Eighteen grains of ipecac produce three slimy and bilious vomitings." Page 20. "Vomiting of a liquid *black* and

pitchy." Page 30. And in this alone consists the "satisfactory response."

Accordingly, the Memoirs of 1817 and of 1819 not once making mention even of the *mucous hypersecretion*, Dr. Delery has taken the trouble of overrunning the particular histories of these Memoirs, and in six of these he has found that mention was made of the matters vomited after ipecac. . . . What of? Of some *slimy stuff* or *mucous*; the famous "*catarrhal matter*." If ever our honorable confrere takes a notion of proving, in this manner, that the anatomical lesions of the glands of Peyer, in *typhoid fever*, are mentioned in *Hippocrates*, he will only have to read some of the admirable special histories left by the father of medicine, in his *Epidemics*; and I can assure him that he will there find at least six observations, wherein it is related "that some mucus were rendered by the stomach or rectum—even also some *pitchy matter*, . . . and even *atrabilious* (simulating, consequently the *black vomit* ;") so that he will at one blow here prove that Hippocrates was not only acquainted with yellow fever, and typhoid fever, but also with the most humble "*hæmatemesic mucous paludal fever*," which Dr. Delery endeavors to smother at its birth. He did not fail, it is true, to call it a *monster* and a *scourge*, etc., as if the so-called "yellow fever of the creoles of the city," would not still be a more formidable one, since against it there would not exist a specific.

The differential diagnosis of yellow fever and of the "*hæmatemesic paludal fever*," Dr. Delery is well aware of that, I based it, since 1859, on the concatenation of the symptoms, their march and the efficacy of the specific.

As long then that he will repeat that, for me, "the vomiting of '*catarrhal matter*,' and 'the fall of the pulse,' are the differential characteristics of these two diseases, *i. e.*; malarial and yellow fever," I will still be forced to reiterate, "It is thus that Dr. Delery excels in endeavoring to impose upon his adversary, a language which he has never held, or even the reverse of what he has said."

Historical Resume.—It is quite probable that the first manifestation of yellow fever at New Orleans, dates about the end of the last century. What is certain, is that during the first half

of the present century, the epidemics were frequent and formidable here; what is not less certain, is, that during these epidemics, the creole children of the city were not, or were quite exceptionally attacked. For this first period, there exist three memoirs, published by Societies of Medicine: in that of 1839, the yellow fever of the creoles is not even mentioned; in those of 1819 and of 1817, it is spoken of as of a very rare occurrence, and finally, we can find but one particular observation, of a creole of the city, that can be attached to yellow fever, that of 1819.

I witnessed the epidemic of 1847, similar to all those that had preceded, and I attest that, during the whole of its prevalence, it did not attack any of the creole children of the city. If there were any exceptions to this old rule, they must have been quite rare.

In 1853, on the contrary, for the first time, during the prevalence of yellow fever, the creole children were attacked epidemically by a fever, during which, some few vomited black; and at that time, the major part of the physicians judging black vomit as a *pathognomic symptom* of yellow fever, generally admitted that the epidemic yellow fever of 1853 had attained the creole children of the city, as well as the strangers.

The question, nevertheless, was to decide if, instead of yellow fever, it was not another fever, little known or unknown until that time, which had just attained epidemically the children of city. It was precisely that year that I experienced the quinic medication in yellow fever, and I was not long in seeing that, useless in the fever of the strangers, quinine was a specific in the fever of the children. From 1853 then, I had the clinical proof of the existence of the "*hæmatemesic variety*" of paludal fever.

Since 1853, it is especially during the absence of yellow fever, and particularly during winters, that I have been able to collect conclusive facts of this variety of fever.

It is impossible then to doubt of its existence. I have endeavored to make known its proofs, in various writings, since that of 1859, to my last article in this Journal of Medicine.

Whilst this "*hæmatemesic variety*" of "*hæmorrhagic malarial fever*," (the great endemic fever of warm countries,) is being

studied in New Orleans, contemporary science is laboring also to develop the study of another variety yet, new also, of this same "hæmorrhagic malarial fever;" I allude to the "*hæmaturic variety*," new in Alabama, Mississippi and Louisiana, but known and described in the West Indies, since twenty-five years. This *hæmaturic variety* in the West Indies, was confounded by the vulgar with yellow fever, and was called, "yellow fever of the creoles and of the acclimated." In fact, like the "*hæmatemesic variety*" at New Orleans, the "*hæmaturic variety*" was observed with the creoles more particularly, or a little oftener during the prevalence of yellow fever with the strangers. It is Dr. Dutrouleau who bears testimony of this fact for the West Indies. It is but a coincidence, which explains itself by the peculiar affinity of both fevers for the same, *i. e.* the warm season.

But, whilst the "*hæmaturic variety*" of the paludal fever, in the West Indies, at Madagascar, as in Alabama, manifested itself under the "bilious form," at New Orleans the "*hæmatemesic variety*" of this same fever assumed the "mucous form."

However, "the bilious form" of the "*hæmatemesic variety*" exists also; it was described by Prof. Aitken under the denomination of "malarious yellow fever." At New Orleans, we have but seldom met this "bilious hæmatemesic paludal fever."

On the contrary, "the mucous form" of the hæmatemesic variety has been observed at New Orleans, on a large scale, even epidemically. It is the same "mucous form," described at Gøttengen, in the last century, by Røderer and Wagler, (*minus the black vomit and the other hæmorrhage, which they did not observe*).

In the American army of the North, in 1862, Dr. Woodward, of the U. S. A., observed the *black vomit*, in the same "mucous form" of the paludal fever, as I had in 1853, and especially in 1858, when I recorded the facts in my pamphlet of 1859. However, in the American army, on the *Chicahominy*, as at Gøttengen, there was a complication of the "Mucous Paludal Fever," with typhus.

Until now, it is then at New Orleans only, that the "hæma-

temesic variety" of the "mucous form" of the paludal fever has been observed in all its purity; here only, was it a *pure hæmorrhagic malarial fever*."

ST. LOUIS, Mo., April 5th, 1870.

Prof. S. M. Bemiss :—A friend handed me the article written by T. C. Osborn, M. D., which appeared in your journal a few months since, entitled "*Report on a new variety of malarial fever*."

He says: "We discussed uræmia, but rejected it, adopting *cachemia* as the most expressive term, and since then constantly called the disease by that name."

Now to my mind, the evidence is so strong that they died uræmic, that nothing less than a demonstration to the contrary, could induce me to relinquish it. We were given no proof that they were not uræmic, and I believe that a proper investigation would have found the blood charged with urea. Had such examination failed to do this, then, and not till then, would I have rejected uræmia.

We are told that in the first case there was hæmaturia; we are not told from whence the blood was derived in this and the other cases, but the evidence leads us to conclude that it was from the kidneys. The microscopic examination of the urine in one case, in which he found "*tube casts*," shows that the kidneys were suffering.

Case 2d, we are told had been suffering for many years with hypertrophy of the heart.

Cardiac and renal disease so frequently go together, that in every case of cardiac disease, especially if it be far advanced, we should make the proper examination of the urine to determine whether or not there be renal disease. Whether cardiac disease produce cardiac disease, is a question not settled; the testimony is a little conflicting, but I have been taught from a very high source that cardiac disease in some manner produces renal disease, and that generally in cardiac disease when we have œdema of the lower extremities, if we examine the urine we shall find renal disease.

Two years previous to this final illness, he had an attack of hæmaturia of several weeks' duration.

He was habitually saturated with the malarial poison, we are told. We should not suppose that a poison which leads to such pathological changes in the spleen and liver would leave the kidneys unaffected. But we are not left to speculate upon this subject. We have evidence that the malarial poison *does* produce renal disease. In the Pennsylvania Hospital Reports, pages 104 and 105, for the year 1868, in the article of Dr. J. Forsyth Meigs, on the "morphological changes of the blood in malarial fever," we are told that the renal function is frequently interfered with that Frerichs found albuminuria in twenty out of fifty-one cases. "In two there was hæmaturia, and in five suppression of urine. Albuminuria occurred without any pigment in four cases whereof two were lardaceous degeneration of the kidneys; in five cases pigment could be detected where there had been no albumen in the urine, but the quantity was scanty." Dr. Meigs quotes Maclean: "Albuminous urine is the rule in yellow fever, a rare exception in remittent fever."

"Albumen is found, in an uncertain proportion of cases during the fit, with blood and renal cylinders. I can confirm from personal observations, Dr. Parkes' remark that chronic Bright's disease is a consequence of ague. Many old Indians who have suffered from malarial fever die of this disease." Dr. Meigs found albuminuria in three of six fatal cases.

But let us examine case second a little further. On the 27th, we are told, there was no discharge of urine since midnight, and the catheter found none in the bladder. 28th.—No urine. Death occurred on the 29th. Observe there was suppression of urine for nearly sixty hours before death.

In Dr. Osborne's own person, he tells us the urine was albuminous, hæmaturic, containing "tube casts."

Case 4.—Miss Jennie R., we are told had been for months affected with hedomadal attacks of intermittent fever. In the last attack, there was nausea and vomiting, pain in the back, and hæmaturia. It may be that the vomiting was due to uræmia. On the 24th, we are told, there was no discharge of urine since yesterday; drew off a gill of bloody urine. 28th.—Drew off half

a gill of clear urine (albuminous?). 26th.—Drew off half an ounce of clear urine. 27th.—Drew off half an ounce clear urine. 28th.—Urine as before. Died at 10 P. M.

Observe there was no passage of urine after the 23d, and that in five days, about twelve ounces of urine were drawn off, not enough to prevent poisoning of the blood by urea, unless free purgation had been induced, and copious perspiration by the hot air bath to carry off the urea by the bowels and skin.

Case 6.—The Dr. was called to see him at noon. There had been no passage of urine since the evening before, and the catheter found none in the bladder. Died at midnight. There was total suppression of urine for thirty hours before death.

Now in the cases in which there was a small quantity of urine passed, we should not abandon uræmia, unless an examination proved that this small quantity of urine contained the urea, which should have been eliminated by the kidneys during that period of time. It is true the skin and bowels may eliminate the urea, and our treatment should be directed to this end. In many cases death can be prevented in this manner only. The writer does not show that the treatment was directed to this end, except in his own person, in which case, the warm bath at night was so delightful, keeping the skin soft and perspirable during all next day, and in case ten, in which it is said the warm shower bath “performed wonders.” This is misquoted, it was a cold shower bath mentioned in the report.

Observe that both these cases recovered. The urea was eliminated through the skin.

I believe that in these cases in which there was suppression of the urine, an examination of the blood would have found it highly charged with urea. How could it have been otherwise?

In one case of Bright's Disease, in the practice of Boisliniere of this city, I found that it contained very little urea, and said that he might be seized with uræmic convulsions at any moment. In a day or two, the weather becoming quite cool, (it was in September, 1868), another vial of urine was brought to me, with the information that he had uræmic convulsions. In this case, and another also in Dr. Boisliniere's practice, I found

the serum charged with urea. I desire, if opportunities present, to make other examinations directed to this end. The method that I use is that of decomposing the urea by the hypochlorite of soda, forming nitrogen gas, and calculating the amount of urea from the amount of gas formed.

In the examination of the urine made by Prof. Lupton, the amount of urea was not ascertained, as, indeed, it could not have been, the urine being then some five or six weeks old, the urea was decomposed and converted into the carbonate of ammonia. Prof. Lupton reports that it was strongly alkaline, evolving ammonia.

Dr. Osborn observed that opium was very injurious, another evidence that there was uræmia.

T. H. HAMMOND, M. D.

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Cachæmia Hemorrhagica.—A reply to Dr. T. H. Hammond; read before the Greensboro', Ala., Medical Society, May 2d, 1870, by T. C. OSBORN, M. D.

Through the courtesy of Prof. Bemiss, I am favored with the privilege of reading an excellent paper from the pen of Dr. T. H. Hammond, of St. Louis, Mo., upon my "report on a new variety of malarial fever," published in the *New Orleans Journal of Medicine*, in October 1868, in which he takes issue with the term "cachæmia," as applied to the disease by Dr. Peterson and myself, in our discussion on the apparent uræmic resemblance in the case then under consideration.

The criticism is generous and unexceptionable in its tone and style, and I sincerely thank the author for it; but if it is his intention to represent me as ignoring uræmia, which is the burden [of his theme, as one of the probable tendencies in the progress of the disease, I beg permission to say that his bearings are entirely misdirected.

In the passage, which he quotes as his text, upon uræmic intoxication, it will be observed that there were indications strong enough to elicit a warm discussion on that head, but not strong enough to induce us to adopt it as a conclusive explanation

of all the phenomena involved in the case. We therefore "rejected it, adopting *cachemia* as the most expressive term," in a generic sense, covering all those conditions, in which there is an undue accumulation of excrementitious substances in the blood. By malarial *cachemia* we simply meant blood, the only definition allowable, and included in its varieties, cholemia, leucæmia, hydræmia, purpuræmia, uræmia, and melaunaemia; conceding to each one of the species, the power to cause death, but disclaiming that either could be diagnosed with any degree of certainty by the train of cerebral symptoms, for the reason that the same symptoms had been observed in all of them. And having in this way disposed of the blood trouble, by a sort of generous compromise in argument, it became quite natural to us, in speaking of subsequent cases, to call the strange fever by that name.

In making up my "report" for the benefit of those who had not seen the fatal disease, or, who, having seen it, were, like myself, mystified by the strange costume developing an old acquaintance, I proposed only to do the scaffolding, or hod carrying part of the work, with what material we had on hand, trusting that others were similarly occupied, and that, when all were ready, the architects and master workmen would come along and finish the structure in a satisfactory manner.

In this expectation it is a pleasure to know that my hopes are being gradually realized. The solution of the problem involving the status of the disease is approaching a completion. And if we shall have to conclude that it is not actually a new form of disease, we can console ourselves with the fact that we have succeeded in divesting it of its mysterious character, and placed it appropriately upon the non-logical shelf as a distinct variety in the natural history of malarial fever. Of the number of able contributors to this work, I cannot forego the happiness of mentioning the names of Drs. *Michel* and *Weatherly*, of Alabama, in whose skillful hands the thermometer, the microscope, and the scalpel have subserved important parts in elucidating the peculiar nature of the disease. The labors of those distinguished investigators have gone hand in hand, from the time of the earliest introduction of the malady to their acquaintance, down to the

present day, and their energies are as unflagging now as they were at the beginning of their researches. In the valuable monograph of the former, as published in this Journal, in July 1869, a descriptive history of the disease is set forth in a style as accurate and chaste, as it is candid and comprehensive; and a consequent contribution by the latter to the same press, adds incalculable value to the record of its prevalence in the cotton zone.

Since 1840, I have been a close observer of the visitations of malarial epidemics, and one fact has steadily impressed itself upon my mind in relation their duration. It is that they have invariably lingered through *periods of three years* each time, *returning irregularly*, and culminating in intensity in the autumn of the second year. It is also my recollection that each visitation presented one or more new features for our investigation, and left its livery upon diathesis for an indefinite time afterwards. As stated in my "report," I have witnessed isolated cases of cachæmia at distant intervals, and in different localities, but its peculiarities was not impressed upon me as constituting a claim to individuality until its appearance during the epidemic of 1866, 1867, and 1868. And although twelve months and upwards have elapsed since that severe visitation disappeared from our midst, and the health of the people seems to have recovered from the depressing influence of the poison, there yet occurs an occasional case here and there, of the strange fever, and its livery appears settled upon a great majority of intermittents, like an heirloom in the family of malarial fevers. Does this peculiarity indicate a change in diathesis? Such changes certainly followed the cholera period and the fever epidemic of 1839, 1840, and 1841.

My own apprehensions favors the affirmative, and already I observe a real or fancied necessity for changing my therapeutics to meet the shifting indications in the treatment of malarial diseases. Diseases themselves do not change. In Alabama we have little else than malarial diseases to contend with, and, but for that poisonous emanation, no portion of the habitable globe could compete with the salubrity of our climate. Whilst upon this topic I am reminded of an error I committed in my "report," and beg the privilege of making the proper correction in this place.

The passage referred to may be seen on page 678, as follows : "Up to this date neither negroes nor mulattoes have been attacked by it, thus giving it a shade of resemblance to yellow fever." The error consisted in failing to address the proper inquiries to the patients, because there was no cholemic discoloration of the skin to direct attention to the disease in that race; and it is a remarkable fact that they are nearly always reticent except to questions made in the most direct manner.

Very soon after the report was made, I began to inquire into the character of the urine, and they usually replied by showing the chamber-vessel, in which there was a large quantity of that secretion as deeply discolored as it was to be found in cases of the white race; but it was *in no instance hæmaturic, nor have I yet seen an instance of death* from the disease in any shade of the negro race. This marked distinction in favor of a class, is well calculated to arrest attention, because the negro is quite as susceptible to the influence of malaria as the white man, and there can be no lingering doubt as to the disease belonging to that class of maladies. The truth is, in the negro it is a mild form of purpuræmia. In fact I have so often seen this condition in both races towards the decline of the epidemic; and have heard, from the most reliable sources, of its prevalence in other localities, where the disease was affirmed to be invariably cured by the hyposulphites, and other simple remedies, that I fancied there was, in all probability, several subdivisions in its character; and addressed a number of letters to our ablest physicians, requesting them to unite with me in the effort to solve the mystery. The general outline of symptoms does not differ, only in point of intensity, materially from the hæmorrhagic variety. The skin of the negro forbids a detection of the cholemia, but my friend, Dr. Love, of Georgia, informs me that the yellow tinge can invariably be found *on the soft palate*; where, he says, all bilious threatenings are sooner discovered than in any other portion of the body.

The nausea, which in the hæmorrhagic form is *persistently distressing, no shade of relief being afforded* (as in the case in all other diseases) by free emesis, until the cholemia begins to disappear. This symptom is less troublesome, and very often entirely absent in the milder forms. And in no instance have I yet been

enabled by persevering observations with the microscope to detect either albumen, blood-discs, or tube-casts; whilst in the severe or malignant variety these features are rarely, if ever, absent from the urine at some stage of the disease.

I mention these facts, hoping that others, more capable than myself, will investigate the matter, and be enabled to reconcile the seeming disparity of success in the treatment of the disease in different localities, as well also to establish the ratio of the milder to the malignant grades; and explain why the disease should appear more amenable to the treatment of one class of practitioners than in that of others, although the medicines employed were, in many instances, identically the same. Thus, in Selma, there were comparatively few deaths from the disease, and in most instances, the treatment consisted in the administration of full doses of the hyposulphite of soda; whilst in Forkland, only about fifty miles west of Selma, the use of iron was regarded as indispensable to success. In neither of the places again, was quinine and mercury regarded as indispensable to the cure; whilst in Montgomery, Mobile and Tuscumbia, the hyposulphites and iron were in insufficient, or injurious; and calomel and quinine quite indispensable to its successful treatment.

The pathology of this variety is the same as in all other forms of malarial disease, and consists in a *paralysis of the peripheral extremities of the vaso motor nerves*, as the first link in the chain of *morbid associations*; which, by being protracted by the continued presence of the poison in the blood, gradually extends along the branches, until finally, it encroaches upon the plexuses and ganglia themselves, where it makes short work with the rest of the organism.

Lancisi, in his letter to *Morgagni*, was the first to advance the idea, that the ganglionic nerves accompanied the arteries to their destination in the arterioles, affording to each minute vessel a corresponding trig, for the purpose of regulating and controlling the duties imposed upon the capillary system.

Bichat afterwards assigned to the capillaries, an action independent of the propulsion of the heart, and observed in them a refined order of sensibility and contractability, by which the

small vessels were enabled to appropriate or repel such ingredients of the blood, as were either necessary to the nutrition of the part, or on the other hand, excrementitious, and hurtful to themselves. This was literally corroborating the assumption of Lancisi.

Broussais went so far in his hypothesis, as to make the cerebro-spinal system totally subservient to the great sympathetic, and subsequent physiologists have not successfully contradicted his supposition. If these predicates be granted, it is easy and natural to infer that the vitality of the organism, including the life of the blood itself, is dependent upon the healthy performance of the function of the ganglionic system of nerves. For as its terminations in the attenuated coats of the extreme capillaries, brings it into immediate apposition with all the fluids and solids of the body, its vitalizing influence must necessarily be imparted to every organic element. Or, on the other hand, if its energies are defective, a greater or less derangement of all the functions must occur: and these derangements will be in direct proportion to the cause operating upon the vaso motor nerves. If this be true, is it not reasonable to suppose that malaria, whatever its subtle nature may be, and however stealthy it may find its way into the system, finally reaches the current of the blood, where it circulates for an indefinite time, without disturbing the constitution of that liquid compound, and poisons the organism only, by impinging upon and paralyzing the points of the nerves, with which it comes every where into immediate contact?

The generation of malaria is but slightly affected by the winter months. This is at least true of southern climates, and it is therefore *untrue* that the poison is ever entirely absent from our atmosphere, but strictly true that cold arrests its influence in the system, by bracing the vital nerves against the presence of the poisonous agent, which is continuously in the blood. This assertion is susceptible of immediate proof. The tongue is a delicate malariometer, and there are very few persons in this latitude ever entirely free from a marked registration of the poison upon its truthful scale.

But malaria is not the only agent which can produce paralysis

of the peripheral nerves. Niemeyer, in treating of that peculiar group of symptoms, known as *Basedow's* disease, in which there are palpitation, acceleration of the heart's action, beating of the veins of the neck and head, swelling of the thyroid gland, and exophthalmus, says: "In seeking for a common source to which the individual symptoms of Basedow's disease may be attributed, the idea of a derangement of innervation of the vascular walls naturally suggests itself. Palsy of the vaso motor nerves fully accounts for the dilatation and increased pulsation of the carotids and thyroid arteries, as well as for the oedematous swelling of the thyroid gland and intra-orbital fat. . . . That palsy of the vaso motor nerves of the cardiac vessels will cause them to dilate, thus augmenting the supply of blood to the cardiac muscles, and producing essential modification of the heart's action. We have no hesitation in declaring our belief that the symptoms of Basedow's disease, consists in a sub-paralytic state of the vessels of the muscles of the heart. At the same time, we deem it rash, or at least premature, to ascribe such palsy of the vascular walls to coarse structural change of the cervical ganglia of the sympathetic nerve. Apart from the fact that the lesions of the ganglia, in some cases, are entirely different from those found in others, and that in other cases again, in spite of the most careful search, no lesion whatever has been found in the ganglia, it is improbable that the nervous disorder of the vascular wall should depend upon the coarse and palpable alteration of texture of the nerve fibres and ganglion cells, simply because such nervous derangement often subsides entirely." And again, under the head of treatment, he says: "Basedow's disease often recovers under a treatment consisting in a strengthening diet, and in the use of iron. The *secale cornutum* has also been prescribed as having a reported power of causing constriction of the walls of blood vessels, and a reduction of their calibre.

As a partial corroboration of this idea, my friend, Dr. F. M. Peterson, tells me he has at this time, a case of hypertrophy of the heart, which he is treating with chalybeate tonics, and has reason to believe the patient to be gradually improving upon the administration.

Being so ably sustained in my belief that the extremities of the sympathetic nerve may become paralyzed, independent of structural lesions of the cords of ganglions, and entirely satisfied, after thirty years. of observation, amidst intensely malarial districts, that malaria, as a *materies morbi* in the blood, expands its toxic influence directly upon the points of the vaso-motor nerves, which are distributed to the ultimate capillaries, and by paralyzing them, so disables the arterioles, that nutrition is necessarily perverted; I am no longer permitted to doubt that a series of changes will occur in the vital functions, in the quality of the blood, and in the solid tissues of the body.

Claude Bernard has ascertained that, as compared with the cerebro-spinal system, the action of the great sympathetic is decidedly slow, and performed in a totally different manner; and that a section of its branches is invariably followed by a dilatation of the capillaries, a consequent stagnation of the blood, and an elevation of temperature of the parts affected; all of which decline again when the division is connected by a current of electricity.

The ordinary prodrome of morbid associations in malarial disease consists, as before stated, in derangement of innervation or paralysis, relaxation and dilatation of the capillaries, stagnation of the increased quantity of blood in the parts, elevation of temperature, and, owing to the arrest of the blood in its course to the lungs for a supply of oxygen, a poison is immediately formed by the excess of carbonic acid, which, if the malarial intoxication is sufficiently intense, produces acute congestions of the vital organs, and the danger to life is proportionally momentous, in the form of pernicious intermittent fever. If, however, the ganglia are not completely overwhelmed, a decided reaction slowly occurs, and a more or less perfect intermission is established. This is equivalent to *Bernard's* connection of the divided ends of the nerve by the electric current. But such sudden shocks as are seen in the attacks of malignant congestive fever are comparatively rare, and it is only in those cases of the protracted impression of the toxic agent, that we are enabled to trace step by step the several morbid characters entailed upon the blood.

It is only after a series of innervations and enervations; of shocks and reactions; of excitements and rests; of paroxysms and intermissions, that the source of nervous irritability becomes exhausted, and the destructive process of toxæmia begins. As long as the ganglia and their plexuses retain a normal integrity, but little, if any, disorder can occur in the healthy constitution of the blood, for it is to this power that its vitality is intrinsically due. When the liver, the spleen, and the kidneys become worn down by pre-existing disorder, we expect, sooner or later, to see a group of symptoms indicating accumulation and retention of excrementitious substances in the blood. But as yet we are unfortunately ignorant of the "ear marks" by which either one of them can be diagnosed with any degree of certainty from the others. This is especially true of the disease, or condition, which Dr. Peterson and myself felt safe only in calling cachæmia, for there were evident signs of the simultaneous presence of several toxic agents in the blood, either of which were sufficiently virulent to produce death. Their poisonous influence is mainly exerted upon the nervous system, through which they induce irritability, disturbance of the special senses, delirium, convulsions, insensibility, coma, and finally death.

The facility with which these effects are produced, depends on the nature of the excrementitious material, and the rapidity of its production in the blood. In uræmia, it is three or four days before the fatal result is produced. But it is, to say the least of it, nearly impossible, with the present lights before us, to arrive at a positive diagnosis of uræmia, in time to save the life of the patient; and its recognition after death, through the assistance of chemistry, can boast no other practical value than a triumph to the progress of science.

It is even denied by Frerichs and others, that urea exerts, per se, a poisonous influence in the system, and that it is not until the urea has been converted by decomposition into carbonate of ammonia, that the symptoms diagnostic of its presence are evolved. Niemeyer says: "We must acknowledge that we are unacquainted with the excrementitious material in the blood, which exerts so pernicious an influence on the organism in cases of suppression of urine. The reduction in the amount of urea

in the urine cannot at first be ascribed to the retention of it in the blood. It would seem rather that, just as in other hydræmic conditions in which the urine is abnormally light, the metamorphosis of material in the body is going on more slowly than is natural, thus retarding the production of urea." There are other authors of considerable reputation who declare that it is urea which is produced by the destructive process going on in the brain, and not, as is supposed, the urea which disturbs the brain. But, according to *Traube*, the so called uræmic symptoms depend upon œdema of the brain and cerebral anæmia. And upon this head *Niemeyer*, says: "Many of the so called cases of uræmic intoxication, but by no means all, are the result of œdema of the brain, and consequent anæmia of the cerebral capillaries."

The disease formerly known as uræmic amblyopia, is now conceded to be an extravasation into the retina, accompanied by inflammatory action. *Planer* is of the opinion that many cases of supposed uræmic poisoning, die quickly with severe brain symptoms, and on autopsy, instead of finding traces of that poison, unmistakable evidences of *melanæmia* are discovered, particularly an accumulation of pigment in the vessels of the brain.

But after all is said, it may be we are premature in assigning a place to uræmia, to which it is by no means clearly entitled. Recent surgical experiments prove that the kidneys may be removed without material detriment to the system; and, on the other hand, that a *strong solution of ammonia* may be thrown *into the veins* with comparative impunity.

Having, in this way, corroborated the position assumed by Dr. Peterson and myself, in calling the blood trouble in our case *cachæmia*, I hope I shall be pardoned for saying that, with respectful deference to the views of Dr. Hammond, we are of "the same opinion still."

If, after all, however, it was obligatory upon me to express my belief in any one of the species of blood poisons as most appropriate under all the circumstances, to the "new variety of malarial fever," I should unhesitatingly decide in favor of *melanæmia*; and for the following reasons:

1st. Because it is purely a malarial disease, rarely occurring

except during severe malarial epidemics, or in patients worn down by protracted intermittent fever. So is cachæmia hemorrhagica.

2d. Because, according to *Virchow*, the peculiar pigment causing the brownish discoloration of the skin is produced by extensive destructive action upon the blood cells in the spleen; not, however, confined exclusively to the spleen, for *Frerich* describes a case in which he found no pigment in the spleen, whilst there was so much of it in the liver as to oblige him to regard this organ as the place where it was formed. Cachæmia hemorrhagica is similarly produced.

3d. Because, according to *Meckel*, the first observer of pigment in the blood, the anatomical appearances consist in a deep discoloration of all the tissues, together with enlargement and depravity of the liver, spleen, and kidneys; which is precisely the same as found by *Michel* and *Weatherly*, in "malarial hemorrhagic fever," and that is only another name for cachæmia hemorrhagica.

4th. Because, according to *Kolliker*, *Niemeyer*, and *Frerichs*, the symptoms and course of melanæmia are almost identically the same as that described in my "report on a new variety of malarial fever," and consists in a bronzed skin, occasional suppression of urine, hæmaturia, intermittent fever, fever of a low grade, delirium, coma, convulsions, and in many cases death. *Niemeyer* says, in speaking of the yellowish brown color of the skin: "If we find this color in a person who has had an obstinate and severe intermittent fever for some time, or if it appears that this intermittent belonged to a malignant epidemic, and had the symptoms of febris comitata, we should strongly suspect melanæmia; and make a microscopical examination of the blood.

5th. And finally, because, according to all the afore-mentioned European authors, the treatment of melanæmia is the same as that adopted in the "new disease," and consists in such measures as are found to be most successful in pernicious intermittent fever.

If these are not good grounds to rest my preference upon, I must frankly confess my ignorance of the nature of a substantial footing. But there is one serious difficulty in the way of its adoption; and that is, the bronzed skin of melanæmia, as described by European observers, seems to be *permanent in its char-*

acter a long time after the recovery of patients from its attacks; whilst cachæmia, as described by American and tropical observers, loses the discoloration frequently before the death of the patient; and in every case of recovery, the skin is the first to clear up; in many instances disappearing on the days of intermission, only to return, more or less deeply, with the exacerbation of the ensuing day.

If, by any sound argument, this stubborn difficulty can be reconciled on the score of geographical and climatic distinction, it will not be troublesome to establish an identity in all the other particulars, and I, for one, will most cheerfully adopt it in preference to cachæmia. But, until this duty is satisfactorily performed, I beg permission to remain upon the platform already built, especially as in its construction there are many planks, either of which is equal in dimensions to any one that has so far been offered as a substitute.

WASHINGTON UNIVERSITY, MEDICAL DEPARTMENT, }
BALTIMORE, August 23, 1870. }

Prof. S. M. Bemiss: My dear Doctor, I have received your report of the Convention of Medical Teachers held in Washington City, last May, for which please accept my thanks.

You will pardon me for calling your attention to an error in the report, so far as my action in the Convention was concerned, and which I am sure you will cheerfully correct.

You state that only two members of the Convention, yourself and Professor Johnson, of the St. Louis Medical College, "were invested with authority to pledge the institutions they respectively represented to such course of action on the part of the Convention, as should prove to be in conformity with their instructions;" that two others, Professors Davis and Logan, "announced that they were so fully advised as to the sentiments of their respective Faculties, that they were willing to pledge their co-operation in all reasonable measures of reform," and that, "all of the remainder of the delegates who made any reply to the

interrogatory, admitted total lack of authority to commit their respective Faculties to any action whatever."

In response to the inquiry of Prof. Johnson, I replied, that, though the Medical Department of the Washington University, of Baltimore, which I had the honor to represent, had not instructed me in regard to *any particular plan* for the improvement of medical education, etc., I had been sent to co-operate in the preparation and establishment of *some* uniform system of reform, and that the school with which I was connected was ready to abide by the decisions of the Convention to the fullest extent, provided they were *bona fide*.

I mention these facts, not that I feel wronged by your report—certainly not intentionally wronged—but simply to place myself and those whom I represented, right upon the record.

Yours, very sincerely,

CHAS. W. CHANCELLOR.

MONTGOMERY, ALA., August 29th, 1870.

Prof. Bemiss : My dear Doctor, I have just re-read your most admirable report "To the Faculty of the Medical Department of the University of Louisiana, in regard to the Convention of Medical Teachers."

I think we of the "benighted South" ought to feel especially proud to know that the only representatives having power to bind their respective colleges to any action taken by the Convention looking to improvement in medical education, were from the land, supposed by many, to be steeped in the sloth of ignorance or lazy indifference, toward any effort leading to intellectual advancement.

With one exception, I believe, the schools of the *Crescent City* stood alone, occupying the proud pre-eminence of being ready and willing to move immediately to the most advanced position necessary to elevate the profession of the re-United States.

It shows, also, that the Faculties of the New Orleans Schools are not afraid to be brought in competition with other schools of the country, upon any common platform that might be agreed to

between them. I think that this willingness should be commended by all lovers of progress, and by every one who feels any interest in the elevation of our sublime calling, which is made too often to grovel in the mire and dust, by the abominable sins of ignorance and selfishness.

Your action, I have little doubt, will place your school upon the high basis which it deserves, and will still more endear it to the hearts of the people, who feel an interest in everything calculated to elevate this poetic land of ours into an atmosphere purified from vice and ignorance. Particularly will it be felt by those of the profession who feel the deep necessity of bringing the best minds in the country to labor in the cause of a common humanity.

You correctly say, "that some line of demarkation so boldly drawn as to become public to the profession must be established, between those institutions which make their *highest honors covetable*, because they are so really, and those which, on the other hand, seek no higher object than to fill their otherwise empty benches, by unprofessional trimming and trickery, or by underselling, or gratuitously distributing their tickets."

Some such rule will soon have to be adopted, and will be a powerful stride in the right direction. Students must be made to feel that to become reputable Physicians they must start with diplomas from respectable colleges. It is time that the profession was asserting its rights as to what sort of material is thrust forward to fill its ranks; and we who are already with the armor on, ought to demand that our places shall be filled by men whom we would be willing to take by the hand and call brothers, and wish them God speed in their efforts to ennoble our grand profession.

Since the meeting of the American Medical Association and the Teachers' Convention, the Mobile Faculty has come out under the Quixotic flag of free teaching. This has been a severe blow to the friends of the college, who were anxious to see a flourishing State institution. So much was the profession of the State interested in this institution, that the State Association passed resolutions indorsing it, and pledging its individual members to its

support; never dreaming, however, that the faculty *contemplated* placing the college in opposition to every other medical school in the United States. For, if I am not mistaken, in no place outside of Mobile, either in this country or in Europe, will you find a Faculty who propose to teach medicine without just compensation.

I have been astonished at the course pursued by the Mobile Faculty; knowing most of the gentlemen well who compose it. (In fact, I am proud to claim them among the most esteemed of my personal friends.) And knowing them to be men of high culture, morally and socially, I have looked upon their action more in sorrow than in anger, and am disposed to think that it is an error in judgment, and that instead of resulting in great good to the profession, as they no doubt thought, it will result in evil to themselves, to the people, and to the profession.

Of course, in this utilitarian age, men will criticise the motives and sincerity of others who propose to work for nothing, or purely for the love they have for the rising generation; and they will be very apt to say that what is not worth paying for, is scarcely worth having.

I presume that no one would object to free education if it could be arranged in a practical way. But the idea of free education, as generally understood, is simply ridiculous. Some one has it to pay for, and I have yet to hear of a free school whose teachers did not receive satisfactory remuneration, either from the government or from the students themselves. These gentlemen may have the abstract right to do what they have done; and so I might have some sort of right to practice my profession without charge, but I should expect to have other worthy physicians in the place to condemn the action as unjust to themselves, and calculated to lower the dignity of a profession which we are all equally bound to sustain. Some may say that it does not concern any particular individual. But I think that every physician ought to feel interest enough in his profession to speak out, when anything occurs which is calculated to cast a shadow over its purity or well being.

I will not, as I have said, impugn the motives of these gentlemen, but I most sincerely regret the action they have thought

proper to take, as one that will in all probability retard the onward march of the profession in this State toward that perfection, which all good men must wish to see attained.

Most respectfully, your obedient servant,

J. S. WEATHERLY.

Mr. Editor.—Having noticed in your Journals of 1869 so many modes of treatment for the noted hæmorrhagic malarial fever, and also seeing that your first number of 1870 has an article on the same subject, I have concluded to give you my limited experience in the treatment of that disease—which I must acknowledge differs very materially from that reported by Dr. Weatherly in your January number of this year. In giving a synopsis of the mode of treatment, it can be done more satisfactorily by citing cases treated, in subjects of entire different temperaments. On the 10th of August, 1869, I was called to see Wm. N., aged twenty-one—very dark complexion, naturally of a bilious temperament. Had been at work twenty miles below here, in a low, flat swamp on the river. Had two chills; was then sent to me for treatment. When first seen, the diagnosis was evidently hæmorrhagic malarial fever. Symptoms: Vomiting a dark matter similar to coffee grounds; had passed about one pint of bloody urine, which was then in the chamber. Skin a deep yellow; pulse over a hundred—large drops of perspiration on the forehead. Very restless, complaining greatly of pain in head and bowels—part of the time delirious. My first object was to check the vomiting, which was done by injecting one quarter of a grain of morphia over region of spine, my next to get an action on his bowels to relieve to some extent the pain in that region. Had his bowels not have pained him, that part of the treatment would have been postponed. By enemata an action was produced containing a little blood. To relieve the head, ice was used freely. As soon as the morphia had the desired effect, five grain doses of calomel were given, sprinkled on pulverized ice, every three hours, until 20 grains were given, a blister 8 by 10

inches was applied over the entire region of stomach and bowels. Before leaving the patient, ordered the ice to be applied to head as long as necessary, also to give it to the patient freely. In thirteen hours I returned, found the patient asleep; the mercury had acted twice—both copious bilious actions; felt better after first action; blister had drawn well; vomiting ceased; had passed some urine—did not know the color; remission in fever; ordered 5 grains of quinia every three hours, until fully quinized. Saw the patient next morning at 9 o'clock; blister paining him some; drew off his urine, which was bloody; ordered spirits nitre dulc. every two hours, in connection with quinia. During the day had three more bilious actions; ate some soup, but did not relish it. At 7 P. M. saw him; had some fever; bowels checked and a little painful; ordered ol. ricini, $\overline{5i}$; tinct. opii, gtt. x; acted during the night. Next morning skin looked better and urine of a more natural color; gave potas. chloras. with quinia—to be kept up for several days. Saw him next day; still doing well. A few days afterwards gave nitro muriatic acid.

CASE No. 2.—Mr. H.'s child, seven years old; light hair; blue eyes; the whole family very susceptible to the effect of mercury, in consequence of which the father objected to its administration. The child had symptoms similar to the preceding case—only not so violent; checked vomiting by blistering and ice; gave 10 grains mercury (hyd. chl. mitis.) in three doses; hastened its action by enemata, containing ol. ricini; afterwards gave quinia and spirits nitre; continued the quinia for several days. The patient was convalescent in five or six days.

There was only one case of hæmorrhagic malarial fever that proved fatal, in this neighborhood, during its prevalence, and this I have no doubt was from the neglect of giving mercury in the early part of the disease. When I first met the disease in this State I treated it as the swamp fevers of Louisiana, and found it generally to yield readily to remedies when applied *vigorously*.

The greatest mistake I think the practitioner labors under in the treatment of a disease so rapid in its course, is that they follow in

the wake of the disease, instead of building fortifications in front, in order to check its headway—that remedies may overtake and conquer it.

The diseases in the past four years have become more malignant and rapid in their destruction of life—therefore the treatment should be more vigorous and active—that is giving remedies to combat symptoms, that you don't see, but know will come to light in eight or ten hours—basing your belief upon what you have seen in similar cases.

Your obedient servant,

SAM'L H. COFFMAN, M. D.

Enterprise, Clarke Co., Miss.

CLINICAL RECORD.

Report of Case of Hemorrhagic Malarial Fever. By Dr. J. W. ANDERSON, Bridgeville, Pickens County, Ala.

MISS H., age twenty-three, had chills more or less all summer and fall; vital action much lowered; appetite capricious; color anæmic, and taken all together, just a case for hemorrhagic seizure, inasmuch as it was prevailing to an alarming extent in the vicinity, and in the majority of cases fatal.

November 5.—Had chill at 1 P. M., and having passed copiously of bloody urine, I was sent for in great haste. Saw her at 3½ P. M., greatly excited and alarmed; cold stage passing off. At 5 fever freely developed, and at 6 sweating freely under hot flax seed tea. Passed again heavy bloody urine; at 7 again, paler, and at 9 comparatively clear; all the while sweating profusely. Slept very well; bowels moved night and morning.

Nov. 6.—Daylight. Seemed much better, pulse lower; head clear; had motion from bladder and bowels, scanty and bilious, with no sign of hemorrhage, but bile and albumen heavy.

Treatment.—Veratrum, three drops every three hours; comp.

quinine, camphor and pepperine pill, one each hour, comp. blue mass, camphor and ipecac pill every eight hours. Seven A. M., quiet and easy, and wished to get up to the fire; 8 A. M., took some light nourishment, with relish. Appears better; skin, soft and moist; no action on kidneys since daylight; 10 A. M., urine free and straw color; 12 M., urine straw colored and slightly turbid, pulse down to normal standard; 2 P. M., alvine discharge, very dark and bilious; $7\frac{1}{2}$ P. M., urine still straw color and bountiful; 8 P. M., vomited; did not sleep first half of night. Daylight, 8th, surface, warm and moist; had no alvine or other motion during the night. Eight A. M., renal action free and same color; 10 A. M., clear and scant; 12 M., sweating profusely; neuralgic pain on side of head and face; 1 P. M., same condition. Has taken since two o'clock at night, fourteen comp. quinine pills and three gttss. verat, every three hours; $2\frac{1}{2}$ P. M., urine the appearance of thick, yellow bile; skin, soft and moist. Pulse 108. System freely charged with quinine, which may excite the heart's action to some extent. Had no alvine discharge since last night. Four P. M., changed bed and dressing; has slight fever but no thirst; slept well at night; pulse was excitable when roused to take medicine, skin perspirable. November 8th, continued. This case continued to improve, and in a week more was again able to be up, and by the use of tonics—vegetable and mineral—has been restored to health.

I deduce from this case and its favorable result, the value of active and unremitting treatment and attention—having remained in her room three days and nights ministering to her wants, and seeing that she each time took medicine.

Report of a Case of Malarial Hemorrhagic Fever.—By Dr. D. C. HEWSON, Orange, Texas.

GEORGE B———E, a fine stout boy of eight years old, had been suffering for a week or more with a slight intermittent fever, for which his mother had given him quinia without any benefit.

On the night of the 15th of January, 1869, I was sent for in a hurry, as he had, after complaining of his bowels a great deal,

passed a large quantity of bloody urine; when I arrived at the house the vessel containing it was shown me, and there was no mistaking that it was blood, for there was the clot formed and separated from the urine. I at once gave him Gallic acid one quarter of a grain, every hour until his urine changed color.

The conjunctivæ had a peculiar dusky appearance, his countenance was very pale and he was very nervous and uneasy; before he passed the bloody urine he complained of pain in the right hypocondriac region, extending towards the umbilicus, but as soon as the urine was passed he would be easy for a time. I at once stopped the quinine and ordered Batleys cinchona cordifolia and iodide of potass $\mathfrak{z}\text{ij}$., aqua menth prep. $\mathfrak{z}\text{iv}$. M. S. A teaspoonful every four hours. In the evening he had another paroxysm and the blood was passed as before. In the morning I saw him and his countenance was almost hypocratic, the skin dusky and the breathing labored; the conjunctivæ had assumed a more yellow appearance.

I at once discontinued the liq. cinchonæ and gave him calomel grs. xv, div. in iij charts. Sig. Take one every three hours until it operates, then to begin with one half grain dose of calomel and 2 grains of Dovers powder every two hours until the specific action of the mercury was produced.

In the morning he was better; skin not so dusky; conjunctivæ more natural in color, and the whole expression of face more cheerful. His appetite was very bad; I ordered beef tea and boiled milk: nothing else allowed.

On the 19th he was slightly ptyalized; discontinued mercury and gave a purge of castor oil. Ordered chlorate potass and continued iodide of potassium mixture.

On the 20th, appetite improving; passed no blood; bowels costive; ordered podophyllin gr. vj, potass bi. tart. gr. xij, pulv. zanziber gr. v. M. ft. chart no. xij, S. One night and morning until the bowels act freely. During the whole time he had been taking an infusion of uva ursæ as a drink, and three drops of oil of turpentine, three times a day. I now commenced to give him tinct. ferri chloride gtt x, three times a day.

My reasons for resorting to the mercurial treatment, was this: The cause of the hemorrhage was obstruction in the portal circulation. In cases of epistaxis, Dr. Watson, in his Practice of Medicine, recommends it pushed to salivation. The gallic acid is the best astringent in cases of hematuria. Quinia is contra indicated wherever there is a hemorrhagic diathesis, being a defibrinator. Iodide of potass is the best anti-periodic in these cases. The styptic balsam made with sulphuric acid, oil of turpentine and alcohol, is a sure styptic in all internal hemorrhages. The tinct. ferri. chloride, is also good.

I have had three cases besides this and all have been treated in this manner, and recovered

PROGRESS OF MEDICINE.

PRACTICAL MEDICINE.

Ergot in Purpura.

DR. Bauer, in *Deutsche Klin.*, (quoted by the *Medical Press and Circular*) testifies to the efficacy of ergot in purpura. He gives 8 or 10 grains in substance from one to three times daily. No effect is claimed on the blood already infused, but within six days the production of the purpuric spots ceases.

Opium in Diabetes Mellitus.

THE *Medical Press and Circular* states, on the authority of Dr. Pavy, that opium has been found to possess great control over the elimination of sugar by the urine. Of its preparations codeine is the most efficient. The commencing dose is half a grain, and it may be increased to ten grains three times a day. It does not seem absolutely necessary to restrict the diet, though this course would doubtless expedite recovery. The period of treatment, in the cases mentioned, varies from six weeks to three months.

Arsenic in Phthisis.

IN the *Lancet*, of March 26th, mention is made of the success of this treatment by Dr. Nonat, in Hôpital la Charité, Paris. His

commencing dose is one milligramme of arsenious acid in pill, increased every eight days by one milligramme till the dose reaches four milligrammes. This remedy is adapted only to cases in the first or second stage, without intestinal complication. In these the appetite improves, and the strength and weight increase. In case of vomiting or diarrhoea, the medicine must be stopped.

Local Anæsthesia in Obstinate Vomiting.

THE *Medical Press and Circular*, of March 2, quotes from the *Union Médicale de la Gironde* a case in which the ether spray was used successfully after the failure of belladonna, bismuth, chloroform and ice. The patient was dyspeptic, and had from twelve to fifteen attacks of bilious vomiting daily. The ether spray was applied three times a day, the patient meanwhile taking ice internally. Vomiting under this treatment became less frequent, and ceased on the fourth day. It is thought that this mode of treatment is specially adapted to cases of a nervous character, without any organic lesion.

Cardiac Disturbance in Renal Disease.

THE *British Medical Journal* of March 26, in a report of the Clinical Society of London, states that Dr. Wilks brought forward some cases to illustrate the effect of renal disorder on the movements of the heart. Violent palpitation, accompanied with the usual inconveniences, was found in some cases of acute nephritis following scarlatina. Cardiac inflammation was not believed to exist, as the disturbance subsided in a few days, and only one fatal case occurred. The symptoms were therefore considered to be merely nervous, and attributable to uræmic poisoning.

In chronic renal disease, these cardiac symptoms might occur, but to a less degree.

As regards treatment, Dr. Wilks considers digitalis useless. Stimulants had generally been administered, for fear of momentary stoppage of the heart's action. His opinion was, that such cases, being the result of uræmia, required the ordinary treatment of diaphoretics, purgatives, etc.

Ileus treated by Shot.

THE *Lancet* quotes from a French journal that Dr. Maydieu, of Argent, France, has successfully treated twelve cases in the last four years, having always failed previously in using the means recommended in the books. He uses shot No. 5, first carefully cleansed, and then mixed with olive oil. A dessert-spoonful is taken every half hour, until the vomiting ceases, the gases are expelled and the bowels moved. Other means, however, are not neglected, such as warm baths, soothing applications, and especially enemata of milk and honey—three table-spoonfuls of the latter to a pint of the former.

Intussusception treated by inflating the Bowel.

IN the *Lancet* of May 21st is reported the case of an infant six months old, treated in this manner by Dr. Wilks at Guy's Hospital. A lump was felt to the left and above the umbilicus, which was hard on pressure. About four inches within the rectum a round projection was discovered, with a circular orifice in the centre. On withdrawing the finger, it was covered with blood. Chloroform was administered, and the rectum was inflated by a bellows. Under this process the lump gradually diminished and disappeared. On the second day afterward a little blood was passed from the rectum, but no feces. On the third day there was a liquid stool, without blood, indicating the success of the treatment.

Lactic Acid in Croup.

IN the *Boston Journal of Chemistry* for May, it is stated that Dr. Adolph Weber was led to try this remedy from its known solvent power over fibrinous exudations. The patient inhales a solution of 15 to 20 drops in half an ounce of water, at first every half hour; and, as the respiration improves, every hour or two. Care must be taken that the vapor does not irritate the face and eyes.

Treatment of Neuralgia.

THE *Medical Times and Gazette* of June 11th describes the principal modes of treatment used in the Infirmary for Epilepsy and Paralysis, under the care of Dr. Althaus. In the worst forms,

especially *tic douloureux*, such standard nervines as arsenic, quinine, nitrate of silver, zinc, bromide of potassium, etc., are useless.

He has sometimes succeeded with hypodermic injections, commencing with 1-6 gr. morphine with 1-60 gr. atropine. The addition of the atropine serves to counteract the nausea produced by the morphine. When the attacks recur after the third or fourth injection, this treatment is considered a failure, and he resorts to the continuous galvanic current. In *tic douloureux*, ten or fifteen cells of Daniell's battery are used, and the current is applied from half a minute to five minutes. "Where the application to the *puncta dolorosa* is ineffectual, the cervical sympathetic is included in the circuit." Galvano-puncture is the most effectual mode of using the continuous current, but is employed only when the external application has failed.

Sometimes the pain ceases and does not return after a single application, and then it is not repeated. Generally from six to twelve applications are required for a complete cure; but if the first or second gives no relief, the current is likely to fail altogether.

Revaccination.

THE *Lancet* shows the value of this safeguard against small-pox by statistics from the British army for five years, ending in 1868. The whole force numbers nearly 200,000 men, and they are distributed through all parts of the world:—in Japan, where small-pox is epidemic; in Bengal, where it is frequently epidemic; and at home, where it prevails exceptionally. During these five years there have been 970 cases and 87 deaths; in other words, about one soldier annually in 1,000 was attacked with small-pox, and less than one in 10,000 died of the disease.

It is the custom to vaccinate every recruit on enlistment, without exception; and to this precaution is to be attributed, undoubtedly, an almost complete immunity.

Pathology of Epilepsy.

THE *British Medical Journal*, in the numbers of June 4th and 11th, publishes a paper on this subject by J. Thompson Dickson, M.B.,

etc., Medical Superintendent of St. Luke's Hospital. The following is an outline of his theory :

Epilepsy is a contraction of the cerebral capillaries and small arteries. The order of its stages is: cerebral irritation, either direct or following exhaustion ; contraction of arteries ; cerebral anæmia and consequent insensibility.

Muscular contractions and the other phenomena of epilepsy are secondary, not essential or constant, and result from defect of innervation.

Loss of consciousness is generally admitted to be the first subjective phenomenon—called by Trousseau the pathognomonic sign of epilepsy.

The condition of anæmia has only recently been noticed. Congestion of the vessels of the face and neck is secondary, and probably compensatory of the internal anæmia.

Schroeder and der Kolk, Trousseau and Brown-Séquard, testify that, when animals have died or been killed during a convulsive seizure, their brains have been found exsanguine.

However cerebral anæmia may occur, whether from pressure or wounding, unconsciousness results. An animal bled to death passes through all the stages of epilepsy.

Pressure on the cerebrum or wounding of its substance produces contraction of its arteries, while those of the medulla oblongata at the same time dilate and are congested. This does not arise from the blood passing from the brain to the medulla ; but, the circulation being checked through the brain, the proximal arteries have more blood to send to the neighboring structures.

However anæmia of the brain may be produced, there is a tendency to convulsions: whether by sudden or gradual depletion (the latter exemplified in menorrhagia); or by distant local hyperæmia (exemplified in the effects of intestinal worms and dentition of children).

Apropos of epilepsy, one thing is to be considered: that currents traverse the nerves only from the periphery to the centre. The *modus operandi* is the same in epilepsy generally, whatever be the exciting cause, and cases marked by the *aura epileptica* may be taken as the type. A certain sensation commences at the per-

iphery, or with one of the organs of special sense, and runs toward the brain, ending in unconsciousness. The peculiar sensation is the final and imperfect current conveyed from the periphery to the exhausted centre.

He sums up with the following conclusions :

"1st. The essential condition of epilepsy is contraction of the small arterial vessels and capillaries.

"2d. The occurrence of the contraction is sudden.

"3d. The duration of the contraction is variable. * * * *

"4th. The cause of the contraction is irritation, which may be direct, but is frequently remote, and the result of a variety of causes. * * * *"

"The phenomena corresponding with the conclusions we have adduced are:

"1 and 2. With the contraction of the vessels we have loss of consciousness, always sudden, though the patient may have some warning of the attack through the medium of the irritation by which the attack is brought about.

"3. The duration of the loss of consciousness will vary with the continuance of the capillary and arterial contraction." * *
It may be momentary, or profound and prolonged. In respect to unconsciousness, there is no essential difference between *le petit mal* and *le haut mal*: the distinction consists in the muscular manifestations.

Epilepsy, then, "is loss of consciousness, the result of contraction of the cerebral capillaries and smaller arteries, induced by irritation, either direct, or secondary to exhaustion."

Bromide of Potassium in Intermittent Fever.

In the *British Medical Journal* of June 11th, are reported two cases in point, treated at Guy's Hospital by Dr. Moxon. In these cases quinine had been thoroughly tried without avail, and both yielded promptly to scruple doses of the bromide three times a day.

Many other recent cases have been treated with the same remedy, with the invariable result of arresting the ague. In some the cure is permanent, even if the patients remain in the malarious atmosphere. In many, however, the fever returns in one or two weeks, if the patient is subject to the same miasmatic influences.

It is to be remarked that this remedy was first used in medical practice for enlargement of the spleen by Dr. Williams, and was found valuable in that complaint.

Arseniate of Antimony in Asthma.

THE *Medical Press and Circular* learns from a correspondent that the above remedy has come into general use in Spain for the relief of obstinate asthma. It is administered in pills, combined with muriate of morphia. "The dose to commence with is two milligrammes, and this may be cautiously repeated up to five doses a day." Cigarettes are sometimes medicated with this remedy, and the smoke is retained in the mouth as long as possible. It is necessary, after a time, to suspend its use, and, in resuming it, to commence with the smallest dose again.

Dover's Powder in Renal Dropsy.

THE *Medical Press and Circular* of June 8th contains a report of several cases in point, treated by Dr. Wm. R. McDonald, of the Ayr Fever Hospital and Dispensary. This application of the remedy was discovered by him in 1868, when he gave ten grains to act upon the skin and rest the kidneys. The effect was a marked increase of the urine, without any action on the skin; and this led to some experiments in dropsy following scarlatina. His plan was to give a dose of Dover's powder, appropriate to the age of the patient, at night, accompanied with a purgative dose of jalap. This remedy, which in health diminishes the urinary secretion, he believes to exert a sedative effect upon the inflamed kidney.

[In a state of congestion, the secretory function of the organ is impaired, and if opium counteracts the congestion by its property of equalizing the circulation, it is plain that the function should be restored.]

Milk as a Preventive of Lead Poisoning.

THE *Medical Press and Circular* of June 8th mentions a communication on this subject lately read to the Paris Academy of Medicine, from the director of one of the principal glass factories in France. Workmen who had to handle minium in the performance

of their duties, sooner or later became subject to its poisonous effects. Two only escaped, who were in the habit of using milk freely, and this fact led to a trial of a milk diet generally, by direction of the chief of the establishment. The result was, not another case of lead colic occurred.

Syphilitic Locomotor Ataxy treated with Arsenic.

MR. MORGAN, F.R.C.S.I., Prof. Surg. and Des. Anat. R.C.S.I., Surgeon to Mercer's and the Westmoreland Lock Hospitals, reports a case of the above in the *Medical Press and Circular* of June 15th.

The subject was a sailor, aged 25, who had contracted syphilis about two years previous to coming under treatment of Mr. Morgan. The ataxic symptoms in walking were well marked. Besides, he had peculiar "shots" of pain in the lower limbs; numbness and formication of the upper extremities; injection of the conjunctivæ and contraction of the pupils; marked portio-dura paralysis; no loss of control over the bladder and rectum, nor alteration of the sexual functions. The ataxia was confined to the lower extremities.

This case was treated with *Liquor Arsenicalis*, B. P., (corresponding closely to *Liquor Potassæ Arsenitis*, U. S. P.,) commencing with one drop three times daily, and increasing the dose to four drops gradually. At the same time his legs were rubbed with the linimentum ammoniæ, containing 3i iodine to ʒi. Signs of improvement began to appear in about three weeks, and he was discharged almost completely cured in eight weeks.

Mr. Morgan remarks that he has used arsenic in many of the more obscure syphilitic affections, and has great confidence in its efficacy, when pushed to the point of saturation. He attributes the failure of the remedy in such nervous affections to want of courage and perseverance in its use.

Ileus treated by Electricity.

THE Chevalier Macario, M. D., communicates to the *Medical Press and Circular* of June 15th a case in a gentleman aged seventy-one, living at Nice. He was a hypochondriac and hab-

itually constipated, and for constipation had taken six enemas before this attack.

When seen by Dr. Macario he was drowsy, but disturbed frequently with abdominal pains, stercoraceous vomiting and hic-cough. The apparatus of Gaëffe for volta-faradaic currents was resorted to. A metallic conductor was introduced into the rectum, and connected alternately with the positive and negative poles; while the other, armed with a wet sponge, was moved over the abdomen, particularly over the transverse colon, where the pain was chiefly located.

Under this application the abdomen contracted violently, and the patient complained of the pain. The operation was continued ten minutes, when the colic and vomiting ceased. In four hours the bowels began to evacuate, and the next day the patient was well.

Belladonna in Typhoid Fever.

B. KELLY, M. D., &c., communicates to the *Medical Times and Gazette* his experience with belladonna in typhoid fever, which extends over a period of nearly six years. His enthusiasm for this medication reminds us that a practitioner of Nashville, Tenn., a few years ago proclaimed the oil of sassafras as a specific for the same disease. In this connection we may observe that a certain M. Chauffard, of Paris, has introduced gramme doses of crystallized carbolic acid in the treatment of confluent small-pox.

Dr. Kelly says: "It completely changes the whole character and outward manifestations of the disease. Delirium, coma and subsultus quickly vanish, and are succeeded by calmness and clearness of the intellect, by natural sleep, and complete control of all the voluntary muscles. Diarrhoea is checked, and healthy consistent evacuations are established. The appetite, if excessive or deficient, is restored to something like a normal standard. The pulse, from being frequent, fluttering and compressible, is rendered slow, strong and equable. The morbid temperature of the body—the *calor mordax* of the Roman, the *causus* [*kausis*?] of Greek physicians—falls to a natural level." * * * "The patient, after an inconceivably short space of time, usually from 24 to 48 hours after the first administration of the remedy, wakes

up, so to speak, and announces himself as well as ever; and indeed, to look at him, he really appears so."

[The above is a specimen of his language, and serves chiefly to show that, while it is a good thing for a person to possess ideas—particularly sound ones—it is not so good when the idea gets possession of the individual—particularly if it be an unsound one.]

Abundant Food in the Neuroses.

IN the June number of the *Practitioner*, Dr. G. Fielding Blandford advocates a more liberal feeding as the most appropriate treatment for certain nervous disorders. He thinks that the importance of food has been depreciated, and that of alcoholic stimulants overrated in this class of complaints. Such are melancholia, hypochondriasis, hysteria, alcoholism, and neuralgia, which are closely allied to each other, often convertible in the same individual, while different forms sometimes exist at the same time in different members of a family.

In these cases we should generally find that an inadequate supply of food has been taken for a considerable time. For instance, a hard-working business man rises late, takes a scanty breakfast, a hurried lunch and a late dinner. Only one full meal a day is taken, and this may be eaten with an appetite damaged by fatigue and undue delay. Such persons break down, recruit by holidays and better living, and then return to their old habits.

Many clergymen fall into nervous disorders by too rigid observance of prescribed fasts, or through a too conscientious abstinence from the luxuries of the table.

Ladies are apt to starve, in the idea that it is not genteel to eat abundantly.

Melancholia has a strong tendency to run into serious or fatal insanity, but when arrested in an early stage, is amenable to treatment. In this complaint there is great disinclination to take food, and this is not due to dyspepsia, as many suppose, but generally to some delusion. They should be persuaded in some way to eat as great a quantity and variety as possible. The intervals should be short; food should be taken five or six times a day; and a reasonable amount of light alcoholic stimulants would be beneficial. Solid food should be used in preference to slops, being more nutritious and more sedative; and it is better

that the different varieties of fatty and starchy substances, sugar and meat should be included.

In alcoholism abundant food is the great requirement, especially in the chronic form. In no other way can the intense craving for stimulants be remedied.

Hysteria and hypochondria are kindred, the former belonging rather to the earlier period of life, the latter to the more advanced. Most subjects of these complaints are scanty feeders and badly nourished, with a deficiency of nervous energy.

Neuralgia is to be regarded generally as a manifestation of impaired sensibility, and requires a large supply of nutriment to the nervous system. Medication mostly affords but temporary alleviation. Fatty articles of food have been found especially useful in these cases, but the aggregate amount must be increased.

In all the chronic neuroses, alcoholic stimulants are a positive damage, unless used in the greatest moderation. The fear of unpleasant consequences from taking food abundantly is generally unfounded in these cases, and should by all means be overcome.

Raw Meat in Diarrhœa and Dyspepsia.

ROBERT DRUITT, M. R. C. P., communicates to the *Medical Times and Gazette* of July 2d his views on the above subject:

The meat may be either mutton or beef, and should be tender. The red, soft muscular substance must be obtained free of fat and fibre either by pounding or scraping, and this pulp forms but a small proportion of the whole. For children it is best given in this simple state, or dusted over with white sugar. Older persons may conveniently take it diffused in beef tea; or the pulp may be mixed with a stiff meat jelly and allowed to cool. Salt and other condiments to the taste may be added.

This preparation of raw meat is adapted to those cases in which the food passes undigested, and increases the irritation of the bowels in diarrhœa, especially the cholera infantum of the hot season. It is also useful in the chronic diarrhœa of childhood, which arises from improper or insufficient food.

The habitual diarrhœa in marasmus is due to superficial ulceration of the intestinal mucous membrane and enlarged mesenteric glands, and is generally traceable to the strumous taint. In this condition the raw meat plan is of the greatest benefit. This

alimentation is suggested in the vomiting of pregnancy. Mr. Drutt has found it useful also in cases of atrophy, dyspepsia and malnutrition.

The Transmission of Cholera.

THE *Lancet* of June 25th refers to a Report on the Cholera Epidemic of 1868, by Dr. S. C. Townsend, Sanitary Commissioner for the Central Provinces of India and Berars, in which it is stated that this disease prevailed in many villages built upon hard, impervious trap rock, bare of soil and destitute of water beneath the surface. The conditions of moisture and subsoil water, supposed to be necessary to the propagation of cholera on the theory of Petenkofer, were here wanting. [Dr. Townsend regards the facts observed by him in that part of India as indicating that the disease is communicated by the use of polluted water, obtained from open springs and surface wells. The most fatal outbreaks occurred in villages dependent on this kind of water supply.

Animal Vaccination.

THE Paris correspondent of the *British Medical Journal*, writing under date of June 20th, states that the partizans of this method now admit that it is exceedingly difficult to get virus from the heifer to "take." It seems likely that the sensation in favor of animal vaccination at Paris will soon turn to some fresher field of novelty.

Remarkable fall of Temperature.

BEFORE the Clinical Society of London, on May 13th, as reported in the *British Medical Journal*, Dr. Greenhow reported a case in which the temperature progressively fell for a week before death, finally reaching 84° in the axilla, and 85° in the rectum. The patient had symptoms resembling those of the last stage of general paralysis of the insane. The brain was found atrophied, and the arachnoid thickened and opaque. In this case there was no corresponding rise of the pulse, as in cholera; neither was there disease of the kidneys.

Domestic Use of the Clinical Thermometer.

THE *British Medical Journal* of June 25th commends the use of this instrument in intelligent families, to determine whether com.

plaints are sufficiently serious to require the attendance of a medical man. For instance, in case of a rash, it would show whether it were scarlatina or measles, or one of those insignificant eruptions so common in childhood. The hope is expressed that a few plain rules for its use might be published, as a guide and an encouragement to mothers and nurses.

Tobacco and Diabetes.

DR. A. W. SAXE, in the *Pacific Medical and Surgical Journal* of July, reports the case of a man who had been a tobacco chewer for 33 years. About a year after quitting the habit, he called the attention of his physician to the fact that his urinary secretion was inordinate, and soon after it was discovered to be saccharine. His appetite was enormous, and all the functions normal except that of the kidneys. He observed, however, a constant thirst, and that he was more easily fatigued than previously. The usual regimen and treatment produced scarcely any perceptible effect.

Finally, by advice of his physician, he resumed the use of tobacco, though reluctantly. That very night he voided only the normal quantity of urine, and it lost its characteristic property.

Only ten days elapsed before the report of the case, (May 27, 1870,) but there was no return of the complaint. The writer suggests "that the case was one of vicarious function—the kidneys undertaking to do the work of the salivary glands, and overdoing the matter to a hazardous extent."

[MORAL.—Let every one who has the fear of diabetes before his eyes, abstain from tobacco chewing, in order to hold this practice in reserve as a remedy for that fatal complaint.]

Chloral in Cerebro-Spinal Meningitis.

IN the *Indiana Journal of Medicine* for July, Dr. A. Patton, of Vincennes, Ind., gives his experience of this remedy in a number of severe and well-marked cases. For the first four days he gave from 10 to 40 grain doses every two hours. "The uniform effect of the medicine in all the cases was to produce complete relaxation of the muscles, promptly relieving the tetanic contractions of the muscles of the back, etc. A quiet, refreshing sleep was substituted for the restlessness and delirium. The pain in the

head and muscles were relieved, as well as the nausea and vomiting. The hyperæsthesia of the surface gave place to a partial anæsthesia, and in all the cases the most formidable symptoms yielded in less than 24 hours. But, in two of the cases, an irritative fever was developed, which continued three or four weeks. All recovered without any unpleasant sequelæ, except the loss of an eye by one."

Venesection in Acute Scarlatina Dropsy.

IN the *British Medical Journal*, July 9th, Dr. J. P. Bramwell, of Perth, expresses himself decidedly in favor of this practice. Nineteen cases of renal dropsy following scarlatina, have thus been treated, with only one death. Five of these had uræmic convulsions; others had less serious symptoms of uræmia, and some were highly anasarcaous. Three-fourths of the cases were preceded by mild attacks of scarlatina, and the majority were so carefully watched that cold could not have not been the exciting cause. It seems probable that, when the rash is abundant, the poison escapes through the skin; but when scanty, this work of elimination falls on the kidneys, which become congested, and in many cases obstructed.

He found venesection "incomparably the best diuretic," and that it "often turns the tide when all other means have failed." In general he found local depletion—two to six leeches over the loins—to be sufficient; but in uræmic convulsions he resorted to general bleeding.

Proper Decubitus in Apoplectic Stertor.

AT the meeting of the Royal Medical and Chirurgical Society of May 24th, as reported in the *British Medical Journal*, it was maintained that the patient should always be placed on the paralyzed side after apoplectic seizure. In this manner the mucus effused in the paralyzed lung is allowed to gravitate, and is prevented from being thrown into foam in the trachea by the ingress of air. Cases illustrative of the value of this plan were related; and the application of the same principles to the treatment of bronchitis, convulsions, epilepsy, hæmoptysis, drowning, chloroform poisoning, and all allied conditions, was suggested.

Treatment of Diabetes Mellitus.

THE *Dublin Quarterly Journal of Medical Science* for May gives a synopsis of several methods lately proposed, and recommended by more or less clinical success.

In 1865 Saikowsky found that the administration of arsenic to animals put a stop to the glycogenic function of the liver. Dr. Leube, acting on this suggestion, tried arsenic in two cases of diabetes, successfully in both instance. The first effect was diminution of the urinary secretion, rather than of the proportion of sugar in the urine. In these cases Fowler's solution was used. In 1864 Dr. G. Owen Rees used a solution of the chloride of arsenic successfully, after the failure of other remedies, in a case of diabetes.

Dr. Jaccoud has obtained good results in the use of arsenic, with suitable attention to diet, in cases where emaciation had not yet commenced. He also found benefit in the use of strychnia.

Dr. Arthur Scott Donkin, of the University of Durham, advocates the use of an exclusively milk diet. Dr. Geo. W. Balfour has also found the milk diet of great service.

[The opium treatment of Dr. Pavy has been mentioned in a previous article, and need not be repeated.]

Strychnine in Fatty Degeneration of the Heart.

IN the *Medical Press and Circular* for July 13th, J. Waring Curran, L. K. and Q. C. P. I., etc., gives his views of this treatment. He premises that cardiac complaints are more frequent and serious in the hot months than in cool weather. The value of strychnine in fatty degeneration was accidentally discovered by him, while giving it in a non-inflammatory affection of the spinal cord complicated with this malady. The amendment of the cardiac symptoms was so marked during a two weeks' course of treatment for the other complaint, that he was inclined to give it trial in a number of heart cases during last summer. Under its influence patients rallied and were able to sleep, who before were afraid to lie on the back, and were relieved of their dyspnoea and angina. In some cases muscular jerkings in the præcordial region made it necessary to suspend the remedy for a time.

His plan was to give a commencing dose of one-thirtieth of a grain (gradually increased to one-tenth), combined with two grains of iodide of ammonium and a small quantity of spirits of chloroform, in a camphor julep.

Tuberculosis and Cancer.

THE *Lancet* of July 16th observes that the correlation of these two maladies has for some time attracted the attention of medical men. Dr. Bundel, of Vierzon, France, in May last, read a paper on this subject before the Academy of Medicine at Paris, in which the author stated that these diseases had been observed in more than a hundred families by his father and himself. "It was found that parents affected with cancer had children who presented the tubercular diathesis." The *Lancet* considers this subject worthy of the observation of practitioners and the investigation of medical societies.

The Temperature in Phthisis.

IN a paper on "The Correlations of Temperature, Pulse and Respiration of Phthisis," by Assistant Surgeon Boileau, to which allusion is made in the *Lancet* of July 16th, the author states that an elevated temperature in a doubtful case of tuberculosis is very significant; while the absence of such elevation does not prove the non-existence of tubercle.

Chloral in Traumatic Tetanus.

THE *Nashville Journal of Medicine and Surgery* for August gives a case, reported by Dr. W. L. Nichol. The subject was a mulatto boy, who received a lacerated wound of the foot by treading on a chicken bone. Tetanus supervened several days after the closure of the wound, and was attended with paroxysms of great severity, excited by the slightest causes. The jaws could be separated only about one-fourth of an inch, and the muscles of the back were continuously rigid. While in this condition he was treated for four days with opium, bromide of potassium and the warm bath, without any apparent benefit.

The foot was opened, but nothing was discovered where the wound had been.

At length warm applications were made to the foot, and 15 grain doses of hydrate of chloral were ordered every two hours, till he slept. He slept two or three hours after the first dose; but it was found necessary to repeat it at intervals of from two to four hours, so that one and a half drachms were given in twenty-four hours. After continuing this treatment five days, it was suspended, no paroxysm having occurred for twenty-four hours, and the muscular rigidity having nearly subsided. The tetanic symptoms, however, returned, and then the treatment was continued for eight days, in quantities varying from half a drachm to a drachm and a half daily. The remedy was then discontinued, but the patient had occasional spasmodic twitches for two or three weeks longer, when excited from any cause.

Chloral in Delirium Tremens.

IN the same journal mentioned above, the editor states that he has treated three cases of delirium tremens with the new remedy. Twenty grain doses were ordered every two hours, till sleep was produced. In each case it was necessary to give but two doses. One case was attended with frequent vomiting, which subsided after the first dose. The chloral, in each instance, was preceded by a full dose of calomel, which always forms a part of his treatment of such cases.

In the *British Medical Journal*, July 16, two cases are reported, successfully treated with half drachm doses. Also, in three cases of acute mania, the patients were induced to take the chloral in porter. Thus sleep was secured, and the road to convalescence was opened.

Complications in Scarlet Fever.

DR. John Kent Spender (*British Medical Journal*, July 16), in a paper on some of the less common complications of this disease, speaks first of *pyæmic inflammation of the joints*. There may be a transitory inflammation of the synovial membrane, or a prolonged, intense one, ending in suppuration of the interior of the joint and destruction of the cartilages. The wrist joint is most liable to such attacks, and next after it the knee and hip joints. If the patient survives the attack, it is very apt to be with dislocation and deformity.

The means of treatment most relied on in this affection are the local application of heat and moisture and the exhibition of quinine. The joint is fomented with some hot medicated liquid, surrounded with cotton and encased with oiled silk—just like a rheumatic joint. Quinine in moderate doses is given every three or four hours, with the first notable effect of reducing the temperature. The progress of the local symptoms is at the same time arrested. Two effects of this remedy are here recognized: (1) *antiseptic*, as shown by Dr. Bing in its power to arrest putrescence and fermentation; (2) *antiphlogistic*, as shown by Cohnheim in his experiments with quinine in inflammation of the mesentery of the frog.

Secondly, he speaks of *delirium*, which is twofold—(1) that of adults, in the early stage of the disease, and an index of high fever; (2) that of children, occurring later, and arising from some arrest of renal function. The first is not serious, and requires no special treatment. With children there may be epileptic seizures, arising from uræmic poisoning due to tubal nephritis. In a case mentioned, the head was shaved and blistered, an active purgative was administered, and a hot bath used. When consciousness returned, milk diet was enjoined, with absolute rest. Toast-water was freely allowed as a drink. This treatment was followed by recovery.

To prevent Pitting in Small-pox.

MR. J. Higginbottom (*British Medical Journal*, July 16) recommends the application of a concentrated solution of nitrate of silver to the whole surface of the face and ears. This is to be done on the second or third day of the eruption, and will arrest the progress of the vesicles. In four days small hardened eschars, free from inflammation, appear, and these come away in a few days without leaving pits.

Arsenic in certain painful Gastric and Intestinal Affections.

DR. ARTHUR LEARED, Senior Physician to the Great Northern Hospital (*Medical Times and Gazette*, July 23), speaks of certain painful attacks, which are more severe than those dependent on food, and do not yield to ordinary remedies. In this form of gastralgia the same individual may at one time suffer when the

stomach is full, and again when it is empty. Sometimes the food in the stomach is plainly the exciting cause, but the typical case is independent of the digestive function. The patient is commonly seized in the night with extremely severe pain, alarming prostration, pallor and cold perspiration. Stimulants afford but little relief, and, after a variable period of suffering, the attack passes off as suddenly as it commenced.

Persons of middle age, who have experienced some great mental depression, are peculiarly subject to this affection of the empty stomach. The bowels, especially the small intestines, are also subject to the same affection, which is to be distinguished from lead colic. The nature of the complaint is essentially neuralgic, and the arsenic treatment was founded on this view. The diagnosis between this form of gastro-intestinal pain and the ordinary forms is difficult. The author's rule is, when the pain resists all ordinary treatment, and cannot be traced to gall-stones or any organic source, to test the case by the administration of arsenic. An inquiry into certain circumstances may throw light on the matter. "If the disease came on after some mental shock or severe trial, if the patient has previously unmistakably suffered from neuralgia, if he has lived in a marshy district, and especially if he has had hemicrania or ague, and if in addition to the occurrence of one or more of these circumstances the pain is paroxysmal, it will almost certainly yield to arsenic."

Arsenic in Irritative Dyspepsia.

DR. John C. Thorowgood (*Practitioner*, July, 1870) recommends arsenic in cases characterized by gastric pain and vomiting. According to his experience, the more purely local the gastric symptoms, the more good is to be expected from arsenic. In general exhaustion, with abnormal urine or hepatic congestion, arsenic is not indicated. A small irritable tongue, with projecting papillæ and yellow or gray fur, calls for its use; also vomiting and burning pain after eating.

The dose is a single drop of Fowler's solution, taken preferably before eating. If no benefit is experienced, it is useless to increase the dose.

Ice as a Remedy for Gonorrhœa, Gleet and Leucorrhœa.

THE *Medical Times and Gazette* of April 9th reports a number of cases of these complaints, treated by Dr. Abrath, Medical Officer to the Hospital for Foreign Seamen, Sunderland, by the local use of ice. Linen threads were wetted and exposed to a freezing temperature. Successive wettings and freezings thus formed bongies of suitable size. The urethra or vagina is first cleansed with cold water, and then about six icicles are successively introduced and allowed to melt in the canal. This process is repeated morning and evening.

Cases of gleet are mentioned of two and three years' standing, cured by this treatment in eight to fourteen days. Attention was paid likewise to the general health, and complications were suitably treated.

The cases of leucorrhœa reported required a treatment of four, five or six weeks. The writer remarks that, in this last complaint, several points require careful attention; the state of the bowels and urinary organs; also the presence of tumors, polypi or uterine displacements. If any such disorders should exist, either as a cause or a complication of leucorrhœa, the treatment must be modified accordingly.

New Instrument for operating on Fistula in Ano.

It is stated in the *Lancet* that Mr. Weedon Cooke uses scissors, of a peculiar form, instead of the generally accepted blunt-pointed bistoury. Having introduced the finger into the rectum, he passes one blade of the scissors through the fistula and the other along the finger in the rectum. The blades having been connected outside by a screw, a single action completes the operation.

Lithotrity and Lithotomy Compared.

IN the proceedings of the Royal Medical and Chirurgical Society, as published in the *Lancet* of June 4th, is given an analysis of 184 cases of stone in the bladder, in which lithotrity was performed by Sir Henry Thompson. These were consecutive cases, of adults, all operated on within a recent period. His object was to make an impartial estimate of the crushing operation, and to ascertain its real value and proper place among surgical operations.

"The results of the operation were discussed under the following heads: (1.) The rate *per cent.* of recovery after the operation, and the causes of death, when it occurred. (2.) The general condition of the patient after the operation. (3.) The frequency of recurrence of stone after lithotrity.

"The chief facts relative to the 184 cases were as follows: They were consecutive in point of time, no case being omitted; that all were adults, and mostly of advanced age; that they included many individuals of very feeble health and constitution; that they were chiefly British, although several were from other nations. The mean age of the 184 cases was no less than 61 years. The youngest was 22 years old. Only three were below 30 years. The oldest was 84 years. There were 46 cases of 70 years and upwards. With very few exceptions, all stones of an ounce and upwards were reserved for lithotomy. All obviously below that were crushed. Not one case was refused operation, not one was left unfinished, and in no instance was an operation of lithotrity completed by lithotomy. The recoveries, reckoning every kind of casualty following the operation, were 93 *per cent.*: but omitting five cases of death, not by any means due to it, the mortality amounted to only 4 *per cent.*

"A second operation for recurrence of the stone was performed for 13 of the 184 cases: 122 were uric acid and the urates; 16 were mixed; 40 were phosphatic; 4 oxalate of lime; 1 crystic oxide; and 1 pure phosphate of lime."

The obvious conclusion is, that the operation of lithotrity, governed by the above rules, is an eminently safe one. No patient was lost, in whom the stone crushed was no larger than a small nut. When employed for stones of a larger size, the chances of a successful issue are diminished accordingly, varied, however, by the age and condition of the patient. His general rule was to apply lithotrity to all calculi clearly less than an ounce in weight, and easily discovered by sounding; and to remove larger ones by cutting.

In the discussion of this subject before the Society, Mr. Cadge suggested that much of this success might be attributed to the superior dexterity of the operator. He also regarded the

recurrence of stone as the weak point of lithotrity, owing to the difficulty of removing every minute fragment of the stone, especially in aged subjects with enlarged prostate gland. The smallest portion remaining would serve as the nucleus for another formation.

Mr. Walter Coulson thought that this publication would silence the opponents of lithotrity, if any remained. He remarked that this operation, though in all other respects successful, was liable to be followed by impairment of the expulsive power of the bladder, and a consequent train of distressing symptoms.

Mr. Erichsen concurred in the opinion expressed, of the liability of atony of the bladder to follow this operation, which would be a very serious consequence to aged subjects.

In replying, Sir H. Thompson observed that he had often found atony of the bladder before the operation, masked by more prominent symptoms. He accepted recurrence of stone as the opprobrium of lithotrity, and valued any method for the more complete removal of the last fragments.

Derangements of the Male Generative Organs.

IN the Harveian Society of London, March 3d, the *British Medical Journal* reports that W. F. Teevan, Esq., spoke of several of the most common functional disorders. The abnormal erections of children, sometimes occurring at a very early age, are due to some local irritation; as too acid urine, gravel, calculus, ascarides, cutaneous eruptions, phymosis, etc. Much trouble is often caused by a contracted and elongated prepuce, which requires circumcision. Children compelled to lie on their backs, as in hip-joint disease, have erections, due to gravitation of the urine on the most sensitive portion of the bladder-

Frequent nocturnal emissions are a source of great trouble to young men; but the physical depression connected with this complaint results more from mental annoyance than loss of the secretion. Drachm doses of tinct. ferri chlorid. would keep them in check.

Such emissions in married men are frequent, and attributable to venereal excesses. These cases require the local use of weak solutions of nitrate of silver.

Seminal losses during defecation are frequently produced by constipation, and are relieved by laxatives.

Diurnal emissions sometimes occur on the slightest mental or physical excitement and are much more serious. Some cases are relieved by suppositories of camphor, opium and belladonna, but others require the local use of nitrate of silver.

True lethargy of the sexual functions sometimes occurs in healthy young men, who have led continent lives. Such cases would be benefitted by ergot, cantharides, strychnia and phosphorus.

The Antiseptic System in Surgery.

THE *British Medical Journal* of May 20th reports that the leading Surgeons of Berlin, at a late meeting of the Medical Society of that city, gave their experience in the use of carbolic acid in the treatment of wounds and injuries.

Prof. Bardeleben stated that the success of this method was completely confirmed in 241 cases then in hospital. Three of these were compound fractures, which must have suffered amputation under different treatment. He had obtained good results and less irritation from the use of sulpho carbolate of zinc, as employed by Mr. Wood, of King's College Hospital.

Prof. Langenbeck also spoke very highly of Lister's method, two years' experience having entirely removed his previous distrust.

Electro-thermal Anæsthesia in Surgery.

THE Paris correspondent of the *British Medical Journal* relates that M. Sédillot has presented a practical paper on this subject before the Academy of Sciences of Montpellier. He is dissatisfied with our present means for abolishing pain during and after surgical operations, and asserts that heat is a more certain agent for suppressing pain than cold. Although it had been previously known that the actual and the electric cautery render traumatic surfaces insensible, he claims originality in the application of thermal electricity as an anæsthetic in surgery.

From numerous trials M. Sédillot concludes that a red heat both produces insensibility and prevents hæmorrhage. It is well known that persons mortally burned have retained general sensibility without local pain. This fact is attributable to destruction of the nerves.

A patient under chloroform, he says, when burnt by an electrical current, feels no pain on awaking. He insists that wounds made by the cautery, being covered by sloughs, are much less exposed to putrid, purulent, miasmatic or atmospheric infection, than those made by cutting instruments. Miasmatic germs might possibly be conveyed by the knife in operating, or through the atmosphere to an open wound. Such dangers would be obviated by the cautery.

In operating, he remarks that an electrical current passed through red hot platinum wires or plates will make them cut like a bistoury; but it is necessary to operate rather slowly, to prevent hamorrhage, and arteries require more time for division than muscle.

Removal of the Whole Larynx.

THE *British Medical Journal* states that this operation has been successfully performed on dogs by Dr. V. Czerny, of Vienna, without any great difficulty. Even in case of removal of the epiglottis, it is found that deglutition is possible. The respiration is carried on through a canula.

These experiments are important, as regards the treatment of malignant affections of the larynx, and indicate a new course of procedure.

Iodoform Dressings.

THE *Medical Press and Circular* quotes from *L'Union Médicale*, that iodoform is applied to varicose ulcers, syphilitic rupia, phagedenic chancre, interdigital fissures, fissure of anus and mucous patches. The powder is sprinkled over the spot, then covered with gold-beaters' skin, and finally with diachylon. It is also combined with cacao butter, as an application to cancerous sores. The action is that of disinfectant and local anæsthetic.

Liniment for Anal Fissure.

THE *Medical Press and Circular* quotes from *L'Union Médicale* the following treatment. A piece of lint dipped in a solution of one part of tannic acid in sixteen parts of glycerine, is introduced into the rectum morning and evening. By this means M. Van Holsbek has healed fissures which did not yield to division of the sphincter.

Meteorology and Surgery.

THE *Medical Times and Gazette* contains a communication from Dr. B. W. Richardson, as an appendix to a lecture on Meteorological Readings in Relation to Surgical Practice. He here borrows the figures of Dr. Addinell Hewson, in the *Pennsylvania Hospital Reports* for 1869, in confirmation of his own theory.

Of 259 operations, 102 were performed while the mercury in the barometer was ascending, 123 while descending, and 34 while stationary. Of 54 fatal cases, 11 belonged to the ascending scale, 35 to the descending, and 8 to the stationary; or, in other words, the mortality in the first case was 10.7 *per cent.*, in the second 28.4, and in the third 20.6. Of the fatal cases in the ascending scale, the patient survived the operation seven days, and thirteen days in the descending scale. Of the cases which died within three days, 75 *per cent.* belonged to the ascending scale.

Both Dr. Hewson and Dr. Richardson connect fatal pyæmia with low barometric pressure and abundant moisture, while death from surgical shock belongs to the opposite atmospheric conditions.

Application to Tumor of the Breast.

HENRY OSBORN, M. R. C. P., reports to the *Medical Times and Gazette*, of April 16, two cases of apparently cancerous growth, treated by the external application of a lotion of the bromide of potassium dissolved in dilute acetic acid (3ij to ʒvj.)

Under this treatment the lancinating pain diminished, and the tumors gradually decreased.

[This will remind many of our readers of the local treatment of cancer by acetic acid, proposed by Mr. Broadbent four or five years ago, but which soon sunk out of notice.]

Malignant Pustule following infection from Glanders.

IN the *Medical Times and Gazette* is reported a case treated in the Middlesex Hospital, by Mr. De Morgan. The subject was a cab-driver, who had often wiped the nose of a horse suffering from glanders, with a rag which he put in his pocket along with his pocket-handkerchief. He was soon attacked with chills and a swelling on the inside of the right forearm. Subsequently the other arm was similarly affected, and within two or three weeks

several unhealthy abscesses formed. The pulse and respiration both became hurried, and the temperature rose to 104.6°. The case terminated fatally.

Amputation through the Knee-joint.

C. F. MAUNDER, F. R. C. S., gives to the *Medical Times and Gazette* of July 2d the reasons both for and against this operation.

The advocates of the method believe that it produces less shock than amputation in the lower third of the thigh or the upper third of the leg; that there is less danger of pyæmia, exfoliation and osteo-myelitis, because neither the cancellous structure nor the medullary cavity is exposed. The opponents, on the other hand, would insist on the risk of extensive synovial inflammation, followed by prolonged and exhaustive suppuration; also of exfoliation of cartilage. Such accidents might produce retraction of the flaps, with exposure of the condyles of the femur, and necessitate re-amputation.

As regards the mode of operating, the circular plan "makes a hollow cup, in which secretions will lodge and putrefy. The long posterior flap involves section of a large mass of muscles, the presence of large nerves which may suffer from pressure, a large suppurating surface, and a tendency of the flap to fall away and expose the condyles." Lateral flaps might be made, but are less convenient than a long anterior and a short posterior flap. The bone is thus covered by skin accustomed to pressure, and abundant drainage is effected.

"The chief points to be remembered in reference to this operation are: (a) The soft parts in the popliteal space are liable to become extremely retracted; (b) the extremity of the long flap will slough, if exposed to direct pressure."

Treatment of Burns.

Dr. A. D. Binkerd, in the *Medical and Surgical Reporter* of July 9th, recommends, as an application to dry burns, carbolic acid and glycerine—five to ten drops of the former in two ounces of the latter.

On a suppurating surface, after a burn, he uses with great success the following application:

Yellow wax, melted and strained, f̄ 3i; linseed oil, f̄ 3iij; tannin, 3i; subnitrate of bismuth, ʒi. First melt the wax; then add the oil, and while cooking stir in the tannin and bismuth.

Alimentation and Calculi.

AT a meeting of the Pathological Society of London (*British Medical Journal* of June 25) Dr. Crisp exhibited a calculus taken from a pelican with enlarged and fatty kidneys. He remarked that in quadrupeds calculi were composed chiefly of carbonate of lime. Sir Henry Thompson stated that he had in his possession many calculi from the rice and sugar-cane eaters of India, of which a large proportion were composed of oxalate of lime.

Dr. Crisp stated that, in sheep fed for exhibitions, calculi only remained in a pultaceous mass.

Remarkable Case of Spermatorrhœa.

Dr. Edward Cass, of Dresden, Ohio, reports a case of 16 years' standing in the *Medical and Surgical Reporter* of July 16th, which had resisted all the approved methods of treatment, including Lallemand's porte-caustique. The emissions commenced at the age of 16, while the subject was apprenticed to shoe-making, and, when he came under the care of the writer, they occurred once, twice or three times a night. He never had erections in his life, and the discharges were not attended with the usual orgasm.

The last resort of castration was gladly accepted by him, and was accordly performed. After the lapse of a year he again presented himself, with health restored; and, what is most remarkable, he now had vigorous erections and a decided taste for female society. In fact he was shortly after married to a young lady, who was fully apprised of his condition, and they have lived happily together for the last eight years!

Treatment of Sciatica by Freezing.

DR. J. S. Adams, of St. Helena, Cal., reports in the *Pacific Medical and Surgical Journal* of July, an attack of this complaint in his own person. The ordinary round of treatment had been pursued. Hypodermic injections afforded only temporary relief. At last he resorted to the application of a mixture of pounded ice and

salt, until a space three or four inches in diameter and half an inch deep, over the tenderest portion, was frozen white. The frost was then removed by cold water applications. When the chilling sensations passed off, the pain was relieved and the cure was permanent.

He alludes to another severe and protracted case, in which this application was followed by immediate relief and speedy recovery.

[The above suggests trial of local anaesthesia by spray of rhigolene.]

Vaccino-Syphilitic Inoculation.

DR. Frank P. Foster, House Physician to the N. Y. Dispensary, contributes a paper on the above subject in the July number of the *American Journal of Syphilography and Dermatology*. The question, whether syphilis has been proved to have been communicated to a non-syphilitic person by inoculation with pure lymph from a typically developed eighth-day vaccine vesicle, he pronounces a hard one to answer.

If the answer be affirmative, it is implied that one constitutional diathesis or disease is capable of impressing its own character on the secretion of a lesion not its own. Where variola and vaccinia occur simultaneously, inoculation from a vaccinal pustule, without contact with the variolous infection, produces vaccinia alone. Besides, if vaccine lymph itself conveys syphilis from a syphilitic subject to the vaccinated person, every instance of vaccination with lymph from a syphilitic person ought to communicate syphilis; but this is known not to be the case.

The pathological secretions of syphilitic persons, as the sputum, pus from suppurating wounds, etc., have not been shown capable of conveying syphilitic infection; and most syphilographers are agreed that the same is true of the physiological secretions.

It has been alleged that a syphilitic person is incapable of developing a true vaccinal pustule, but Dr. F. has found otherwise from his own experience. Neither is it true that, when syphilis and vaccinia are inoculated simultaneously, the former supplants and prevents the latter.

To increase the improbability of syphilitic infection by vaccination, Prof. Boeck, the distinguished advocate of syphilization, writes: "If syphilitic virus, in a fluid condition, be kept for six or eight days, it is usually no longer inoculable, and, when in a dry condition, it loses its infecting power still earlier. I have grounds for assuming that, after the lapse of a few hours, it is no longer inoculable."

Paracentesis Pericardii.

DR. T. Clifford Allbutt, in the *British Medical Journal*, July 9th, remarks favorably on this operation for the relief of hydropericardium.

The condition is constantly a critical one for the patient. The operation has been pronounced hazardous, and it is alleged that, "in the majority of cases, the result has been unfavorable." This must mean, (1) that the operation itself is the cause of death, as in unsuccessful ovariectomy or amputation; (2) that it hastens death, as in unsuccessful tracheotomy; or (3) that, while of no benefit, it adds to suffering. All these conditions are rejected by him.

The point selected for puncture in his cases was "at the upper border of the fifth left cartilage, about a third of an inch from the sternum." One case was a decided success. Another was a phthisical subject, in which the operation was repeated, but she succumbed to the lung complaint, though the tapping afforded great temporary relief to the cardiac distress.

He considers puncture with a fine trocar to be safer than incision with a scalpel, and, after a careful physical examination, to be attended with little risk.

Circumcision for the Relief of Nervous Symptoms.

AT a late meeting of the New York Pathological Society, as reported by the *Medical Record* of July 15, Dr. Sayre exhibited the prepuce of a youth aged 16, who had been epileptic, and was gradually losing control over the lower extremities. Finding an enlarged prepuce, with a very narrow opening, which became irritated by confinement of the urine, he removed it. The convulsions ceased at once.

A case was sent to him, by another physician, whose legs were contracted at an acute angle, with a view of dividing the hamstring tendons. He discovered that the limbs could be extended, and that the condition was paralysis of the anterior muscles. His attention having been called to the child's penis, he found it "erect and very red, with phymosis and a narrow preputial orifice." This condition had existed a year and a half. Circumcision was followed by entire relief, without any other treatment.

He had just performed this operation on two boys with this form of phymosis, who also suffered from nocturnal incontinence of urine, and expected a cure.

Dr. Detmold expressed the opinion that slitting up the prepuce would be quite as efficient as its removal, and less objectionable—particularly if the patient were to marry a widow, who might draw a comparison somewhat to his detriment. Dr. D. also remarked that circumcision did not afford Jewish children certain immunity from nocturnal incontinence.

Carbonization of Cancers.

THE *Boston Journal of Chemistry* for August states that Prof. Scott, of New York, is treating cancers on a new principle, which promises to supersede the old methods. He applies to the sore the chloride of chromium incorporated with stramonium ointment. This carbonizes the tumor in a few hours, with scarcely any pain, so that it readily crumbles away.

Puncture of the Abdomen for Tympanites.

THE *Dublin Quarterly Journal of Medical Science* for May mentions three cases, in which marked relief was afforded by this operation. Two of these were reported in the *Deutsches Archiv für Klinische Medizin*, by Dr. Stein. In one the distention was caused by the pressure of an ovarian tumor on the intestine. The puncture was made in the cecal region, and was repeated daily more than fifty times, at the request of the patient. At the *post mortem* scarcely a trace of the punctures could be observed. The second case was that of a man 61 years old. Eight punctures were made in fourteen days, with great relief and no unpleasant results.

Dr. T. Clifford Allbutt reported in the *Practitioner* for February, 1869, the case of a man with double pneumonia, on whom this operation was performed successfully for the relief of the most distressing tympanites. The punctures—two in number—were made over the transverse and descending colon. The patient however died of pneumonia, after obtaining relief to the tympanites. After death no traces of the punctures could be found, except on the surface of the body. The instrument used was an exploring trocar (No. 1 Weiss).

Form of Maxillary Neuralgia hitherto Undescribed.

PROF. S. D. GROSS, of the Jefferson Medical College, Philadelphia, gives an account of this malady in the *American Journal of the Medical Sciences* for July. "Its seat is the remnants of the alveolar process in edentulous persons, or in the alveolar structure and in the overlying gum, and is met with chiefly, if not exclusively, in elderly subjects. It is also more common in the upper than in the lower jaw. The part affected is usually very small, often not exceeding a few lines in extent." The soft parts are rarely involved, but the gum has been observed to be hard and dense and to adhere firmly to the atrophied alveolar process below.

The pain is commonly paroxysmal, as in ordinary neuralgia, and may be excited by the slightest causes, as talking, mastication, deglutition, contact of cold or hot liquids, or mental excitement. The pain varies in character and severity, and is generally aggravated by pressure.

"The pathology of the affection seems to be compression of the minute nerves distributed through the wasted alveolar process, dependent on the encroachment of osseous matter upon the walls of the canals in which they are naturally enclosed."

The onset of the disease is gradual; which becomes worse until the general health is finally impaired by loss of sleep and appetite, imperfect digestion and habitual constipation. It seems sometimes to be due to malarious influences, being characterized by regular paroxysms.

The treatment successfully employed in several cases was incision of the affected portion of the alveolar process with cutting forceps.

Rare Disease of the Joints.

PROF. Samuel Jackson, of the University of Pennsylvania, in the July number of the *American Journal of the Medical Sciences*, describes an affection resembling rheumatoid arthritis, which seems to be confined to the ligamentous tissue, without disturbing the general health. The joints of locomotion appear first to be affected, and, as the disease progresses, others are successively involved, until the patient becomes helpless. In some cases there is stiffness of the joints; in others looseness, so that they are dislocated by slight movements. Some suffer greatly with pain in the affected joints, while others experience only the inconvenience of loss of function.

Of eight cases mentioned, only one was benefited by treatment. This one was confined to a milk diet, and made use of "Penny's bath"—whatever that may be. The patient, however, relapsed after three years, and was lost sight of.

Treatment of Carbuncle by Pressure.

THIS plan is recommended by Dr. M. L. Bennett, of Burdett, N. Y., in the July number of the *American Journal of the Medical Sciences*. He applies narrow strips of adhesive plaster concentrically, beginning at the margin, and overlapping them until within half an inch of the centre. The effect is a prompt relief of pain, the promotion of suppuration and spontaneous opening and discharge, and rapid subsidence of the tumor. As the plasters become loose, new ones are applied on the same plan. This method is said to cure more expeditiously than incisions, and to be attended with less risk in aged persons.

Specific for Erysipelas!

THE *Medical and Surgical Reporter* states that Dr. J. E. Garretson remarked lately at his University College Clinic, "that, in his practice of the past five years, he had met with no case of erysipelas which had not readily and instantly yielded to the local application of the muriated tincture of iron, tincture of cinchona and sulphate of quiniæ."

The following is his formula :

R. Tinct. Ferri Chlor.
 Tinct. Cinchonæ, - - - - aa f ʒij.
 Quiniæ Sulph., - - - - gr. xxx.
 Aquæ, - - - - f ʒiss. M.

S. Apply with a brush, four times a day.

[We suspect that Dr. G.'s cases have been of about the same grade of severity as our own for several years. All recover under the local application of Liquor Plumbi Subacetat. Dilut., and would probably get well eventually under no treatment at all.]

The Incubation Period of Syphilis.

Dr. MacCormac, of Belfast, communicates to the *Medical Press and Circular* of July 13th his observations on two cases of constitutional syphilis, in which he has confidence as regards dates. In one case forty-two days elapsed from the last intercourse till the appearance of local infection; in the other, twenty-eight days. In both cases it was presumed that the source of contagion was a secondary syphilitic lesion, which, until lately, has been rejected as a possible mode of contamination.

From inoculations practiced on healthy persons, he concludes that the period of incubation is longer according as the source of infection is further removed from the initial stage of chancre; and Diday asserts that syphilis communicated from a secondary lesion is milder than when derived from a chancre. Consequently an attack of syphilis is severe in inverse ratio to the period of incubation.

Dr. MacCormac concludes, from the existence of this state of latency, that true chancre is not the initial point of syphilis, but the primary symptom of constitutional infection. Hence all attempts to eradicate the disease by local treatment of the sore (excision or cauterization) are worse than useless. He also regards mercurials as unable to prevent the later syphilitic syphilitic symptoms, though perhaps able to modify them. He therefore prefers to delay their administration, in order to determine the natural severity of the case, which may be so mild as not to require a resort to mercury at all.

Rectangular and Non-Rectangular Amputations.

In the *Lancet* for July 16th Mr. T. Prigdin Teale gives the follow-

ing table, showing the comparative mortality following the two methods in the principal regions of amputation:

Individual Amputations Compared.

	Total.	Deaths.	Per ct.
<i>Thigh.</i> —Accident; rectangular	10	7	70
“ non-rectangular	16	11	68.7
Disease; rectangular	57	11	19.2
“ non-rectangular	16	5	31.2
<i>Leg.</i> —Accident; rectangular	14	4	28.5
“ non-rectangular	35	19	54.5
Disease; rectangular	60	8	13.3
“ non-rectangular	19	3	15.7
<i>Arm.</i> —Accident; rectangular	10	3	30
“ non-rectangular	33	12	36.3
Disease; rectangular	5	0	0
“ non-rectangular	8	1	12.5
<i>Forearm.</i> —Accident; rectangular	18	1	5.5
“ non-rectangular	45	4	8.8
Disease; rectangular	9	0	0
“ non-rectangular	5	3	60

Amputations at the hip and shoulder joints, not being adapted to the rectangular plan, are excluded entirely from this comparison. In amputations of the thigh for accident alone does the rectangular plan show a higher mortality, and this is very slight. It seems, therefore, that the objection to the large extent of cut surface in the long anterior flap does not hold good when tested by experience. The only questionable point is the amputation of muscular thighs for accident, and on this further experience is wanted.

Aneurism mistaken for Cancer.

Dr. E. D. Mapother reports (*Med. Press and Circular*, July 20,) a case, in which the error in diagnosis was not discovered till after amputation of the affected limb.

The patient, a thin, pale lad of 17 years, discovered on rising one morning a small moveable lump above the calf of the right leg, with some stiffness of the joint. No injury had been re-

ceived. After poulticing, the tumor increased to the size of a large cocoa nut. There was no pulsation, thrill nor bruit, except at the external condyle of the femur, where the superior external articular artery appeared to be enlarged. The swelling was firm and elastic, except in two projecting points, which seemed to contain fluid. No pain was complained of. Three of the glands near the saphenic opening were enlarged, but not indurated, and along the vein for two inches the lymphatics seemed to be thickened. An exploring needle thrust into the soft points for two inches disclosed nothing but a few drops of bloody serum.

Dr. M. and his colleagues, after repeated consultations, concluded that the tumor was encephaloid; this opinion was concurred in by several of the ablest hospital surgeons of Dublin, and all advised amputation. Mr. Colles inclined to regard it as an aneurism, but considered it a hard case to decide.

After amputation an aneurism was found, the sac of which had given way. Semi-fluid blood was found directly under the skin. The gastrocnemii muscles were broken down, the posterior ligament and periosteum stripped from the tibia, and the bone was indented and softened.

Dr. Mapother consoles himself with the reflection that no harm was done in resorting to amputation, and that such masters in surgery as Desault, Dupuytren, Earle, Dease, Syme, Pirogoff and Paget have fallen into similar errors of diagnosis.

Perforated Zinc as a Surgical Appliance.

PROF. CLELAND, of Galway, (*Med. Times and Gazette*, July 30) says: "I have found a roll of perforated zinc a thing extremely convenient to have beside one in surgical practice." He uses it as a substitute for wooden and pasteboard splints, and considers it superior to wire gauze, as being stronger and cleaner.

He has also found it useful in the dressing of stumps after amputation. In case of the thigh, he would use a strip about a yard and a half long and the breadth of the stump, folded like a pair of sugar-tongs. Leaving the lips of the wound bare, or only slightly covered, he slips on the zinc so as to have one end in front and the other behind the stump, and the folded part to project several inches forward of the stump. Pads are arranged

in the proper manner, and the whole is secured with a bandage.

The advantages of this arrangement are, that it affords protection, especially to cases which require removal; that it facilitates the appliance of pressure to any desired points, or equally the removal of pressure; and that the stump can be inspected and cleaned without removing the dressings.

OPHTHALMOLOGY,

New Operation for Posterior Adhesion of the Iris.

ALEX. OGSTON, Ophthalmic Surgeon to the Aberdeen Royal Infirmary, communicates to the *Medical Times and Gazette* a description of his improved operation.

He first remarks that atropine usually fails to break up the adhesion of the iris to the lens, even in the early stage. This adhesion, proceeding from bad to worse, excites inflammation in the capsule of the lens, which ends in cataract, and often involves the deeper structures of the eye.

The treatment of this complaint, posterior synechia, is one of the least satisfactory in ophthalmic practice. When the adhesions are extensive, iridectomy affords the surest relief, at the expense of some deformity; but, when confined to the pupillary margin, it is desirable to break them down without distortion of the pupil. He alludes to Stellwag's operation, of making an incision in the cornea with the iridectomy knife, and then, with a hook sharp on its concave and blunt on its convex side, breaking down the adhesions. Also to the more recent one of Passavant, of making the same incision, then tearing the adhesion with the iris forceps. The former operation he never tried. The latter he abandoned after several trials. Contraction of the pupil followed in every case, after escape of the aqueous humor; and then the two ends of the adhesion were so much approximated that they united again, in spite of the free use of atropine. In both these operations the trouble arose from the escape of the aqueous humor through the incision and the inevitable contraction of the pupil which followed.

The plan proposed, which obviates this difficulty, consists in

the introduction of a needle "through the cornea, near its sclerotic margin, at a considerable distance on one side of the adhesion, and in such a direction that, when pushed onwards, it crosses at right angles that radius of the lens in which the adhesion is lying. The needle is pushed onwards into the anterior chamber, and so guided by the operator that its point becomes engaged in the pupillary margin of the iris at the root of the adhesion." Then by a lever action of the needle towards the edge of the iris, the corneal puncture acting as a fulcrum, the adhesion is stretched and ruptured. As the aqueous humor does not escape on the withdrawal of the needle, it is easy to keep the pupil enlarged by atropine, so as to prevent the formation anew of the adhesions; and the operation causes little or no inflammation of the cornea and iris.

[This operation may be a novelty in London, but has long since ceased to be so among opticians in New Orleans. They have not, however, experienced the success which the Aberdeen surgeon seems to anticipate, and place more reliance on iridectomy and the formation of an artificial pupil.—ED.]

Action of Remedies on the Pupil of the Eye.

MR. NATHANIEL ALCOCK, Assistant Surgeon to the 35th regiment, gives his views on this subject to the *Medical Times and Gazette*, from which we extract the following:

"Experiment has taught that division of the third nerve causes extreme dilatation of the iris, and section of the sympathetic its intense contraction, proving thereby that these nerves are antagonistic. The apparently excessive action of either on the removal of the influence of one shows that, in the natural condition, their powers are balanced, but subject to continual variation by calls for additional exertion of nerve force, animal or organic, arising out of collateral requirements.

"That the circular fibres of the iris, though supplied by branches of a voluntary motor nerve, should be beyond the control of the will, is intelligible from the fact that they are opposed in the radiating fibres by an equal nervous power coming from an involuntary source, and that the effort of the will is unable to call forth such excess of force as can overcome the resistance. Omitting, then, the results of paralysis of either nerve, which are obvious, contraction of the pupil is but the excess of active motor power over natural tension.

"Dilatation is the excess of tension over the active motor power. The former is produced by inflammatory irritation of the

brain, by mechanical stimulus applied to the third nerve, and by tetanus. The latter succeeds compression of the brain and epilepsy, in which 'the pupils are dilated during the fit, and it is very remarkable how this is associated purely with the epileptic condition.' (Dr. Wilkes, *Medical Times and Gazette*, January 16, 1869.)

"The influence of the sympathetic on the iris is analogous to its recognized office of preserving the tone or natural tension of the capillaries. The paralysis caused by its section allows dilatation of the capillaries and contraction of the pupil, the third nerve being overcome by the extra nerve-power evolved. By this can be explained the varied action of those different drugs which are grouped under the head of narcotics, and hence may be derived an index of their value and appropriateness in the treatment of disease. The familiar symptom of contracted pupil in poisoning by opium, and the same effect more recently produced by Calabar bean, demonstrate that in these drugs we possess powerful sedatives of the sympathetic system, which can thus relax the capillaries, a consequence long since admitted by the use of the former in full doses to cut short the first stage of ague, and of late by the administration of the latter to combat the condition of tetanus. On the other hand, the dilatation of the pupil induced by belladonna and hyoscyamus shows that by these substances we are afforded means probably of narcotising the motor tracts, but more certainly of stimulating the sympathetic to increased action, thereby lessening the calibre of the capillaries and dilating the pupil."

MIDWIFERY AND GYNÆCOLOGY.

Case of Simulated Pregnancy.

IN the *Boston Medical and Surgical Journal* a remarkable case is reported by Dr. C. G. Putnam. The phenomena continued through a period of eight years, the subject being well-proportioned, of healthy appearance, and the mother of eight children. At his first observation the abdomen appeared enlarged to the size of the full period of gestation. Abrupt vertical motions occurred frequently, and sometimes so forcibly as to interrupt respiration. Occasionally she swayed from side to side, as if from lateral plunges of a fœtus.

Careful examination disclosed a "resisting, doughy mass, heaving and rolling under the hands," instead of the usual firm

uterine tumor of pregnancy. The mammae were enlarged, the areolæ dark, the follicles moist and turgid, the menstruation irregular and not precisely dated. Neither foetal pulsation nor placental souffle was detected by auscultation. No uterine displacement existed.

The case having been submitted to the examination of the best medical counsel, two opinions divided their minds. (1) That the motion of the abdominal muscles indicated the presence of a living body within. (2) That it was merely spasmodic, and was caused by the pressure of some adventitious tumor."

Finally her death from some hepatic disorder gave an opportunity for a *post-mortem* examination, which disclosed the absence of any body whatever to account for the curious symptoms which had persisted for so many years.

Metria in Hospital and in Private Practice.

DR. J. Matthews Duncan, in the *Lancet* of May 28th, expresses views somewhat at variance with the present tendency of medical opinion on this subject. Under the term puerperal fever, or metria, he includes a variety of diseases, and a variety of modifications and terminations of diseases. He denies that puerperal fever is at all epidemic, in the true sense of the word, and speaks doubtfully of its claim to the appellation contagious or infectious.

It has been alleged that metria is preventable, but he answers that it is not prevented, and is as little preventable as any disease in the nosology or crime in the decalogue.

To the oft-repeated statement, that puerperal fever is a constantly existing or constantly recurring disease in hospitals, and rarely occurs in private practice, he opposes statistics drawn from observations in different parts of the United Kingdom. His conclusion is, that metria destroys 1 in 3.6, 1 in 2.5, 1 in 1.8 of those that die in child bed, in private practice. In hospital practice the ratio is 1 in 3.4, to 1 in 1.3, which does not differ materially from the former. The slighter degree of prevalence of puerperal fever in hospitals is attributable to differences in the character and circumstances of patients—to the frequent degradation of hospital patients and the fact that many are the victims of seduction.

May Imperforate Hymen be Hereditary?

HORATIO YATES, M. D., Surgeon to Kingston General Hospital, communicates to the *Lancet* several cases which seem to give an affirmative answer to this question. A farmer's wife brought her daughter to him, whom he relieved by the usual operation. An older sister, then deceased, had suffered from a complaint which he considered identical, from the mother's description of the case. Soon after two daughters of this woman's brother were brought to Dr. Yates, both laboring under the same malformation.

Puerperal Mania treated by Chloral.

IN the *British Medical Journal* of June 11th, is reported a case thus treated in the London Hospital by Dr. Head. This patient, nine days after a short labor terminating in the birth of twins, was seized with violent mania. One drachm of chloral hydrate was given in a mixture flavored with ginger, and in five minutes she was asleep. After sleeping three hours she awoke in the same condition. Another like dose was given, and she slept with a slight interruption for twenty-four hours. She then awoke rational.

Absence of Uterus in two Sisters.

THE *British Medical Journal* of June 18th mentions two sisters, patients at Guy's Hospital, in both of whom the uterus was found to be wanting. The external organs, vagina and mammae were found in both, and both were married. There was no sign of menstruation in either, and it was believed that the ovaries also were wanting.

Child-bed Mortality as affected by Aggregation and Isolation.

THE *Medical Press and Circular* of June 1st contains a discourse delivered at the Medical Society of the Hospitals, Paris, March 4th, by M. Dumontpallier. He attempted to prove that the agglomeration of lying-in women in large hospitals is the principal cause of the large mortality of puerperal women.

He quotes the statistics of M. Lefort, which include 1,823,000 cases of labor, and settle the mortality of women recently de-

livered in the hospitals and large maternities at one in thirty-two, and one in two hundred and twelve in the private houses of cities. M. Tarnier, in his inaugural thesis, maintained that, in 1856, the rate of mortality among women delivered in the twelve arrondissements was one in one hundred and forty-two, in the office of benevolence; and the same year one in nineteen at the maternity of Paris.

This frightful mortality having attracted the attention of the government, increased assistance was rendered to lying-in women at their own homes. The result in 1868 was a mortality of one in two hundred and eighty-six assisted in this manner, against one in twenty-five at the hospitals.

The government then determined to extend assistance to women without homes, by providing accommodations at the houses of midwives. In 1869 one death among one hundred and thirty women occurred among those delivered in these private houses, while the mortality in the large maternities remained the same as the year before.

Case of Protracted Gestation.

THE *Medical Times and Gazette* of March 12th reports a case which came up for judicial examination. The question was to decide the paternity of the child, the mother being unmarried. Her last intercourse with the defendant was on April 14th. On January 26th following she had something like labor pains, but took some medicine, and they ceased. This was 288 days from April 14th. On February 9th labor commenced, but the pains were twice interrupted, and she was not delivered till February 15th. From April 14th to February 15th, both days inclusive, is 308 days.

Dr. Tanner, a witness for the plaintiff, had never had a case to go beyond 293 days, but saw no reason why a child should not be born 300 days after impregnation. Dr. Clarke cited several recorded instances of protracted gestation—one of 310, one of 300, and one of 297 days. Dr. Tyler Smith believed in protracted gestation, but did not define the limits. He did not credit alleged cases, when the calculation was from last menstruation, nor when they were said to follow a single intercourse. Dr. Barnes

averred that recent experience tended to narrow the limits of belief in protracted gestation.

It was observed that this woman's menstruation had commenced late, and had been irregular in regard to time and of variable quantity.

The decision of the jury in favor of the plaintiff, after a charge from the court leaning this way, endorsed the idea of prolonged gestation.

Manual Distention of the Perineum for Uterine Inertia.

THE *Boston Medical and Surgical Journal* of July 21st quotes from *L'Union Médicale* the successful use of this practice by Dr. Van der Meersch.

When the pains grow feeble, towards the end of labor, he introduces his right index and middle fingers as far as the head of the child. Then separating the fingers, he draws them down the recto-vaginal septum, pressing on the external orifice so as to distend decidedly the perineum. A few repetitions of this process brings on vigorous contractions.

Puerperal Temperatures.

THE *Dublin Quarterly Journal of Medical Science* for May has a quotation on this subject from a paper by Mr. Squires in vol. ix of the *Obstetric Transactions*.

It appears that the temperature of the body is slightly increased during pregnancy, especially during the latter portion. Taking 98.8° as the nominal standard, an increase of 1° may be considered as the highest ordinary range.

A limited number of observations go to show a rise in temperature before the access of the catamenia, followed by a fall on their occurrence. In one case the vaginal temperature was 99.9° on the day before the flow set in, and only 97.3° the day after.

His other conclusions are thus expressed :

"1st. That no great elevation of temperature arises in natural labor. 2d. That there is afterwards a considerable fall of temperature, which is favored by sleep. 3d. That there is a subsequent exaltation of temperature, which has for its natural termination the secretion of milk."

Use of the Obstetric Forceps.

PROF. Ellerslie Wallace, of Jefferson Medical College, Philadelphia, in the July number of the *American Journal of the Medical Sciences*, gives his testimony strongly in favor of a more early and free use of the forceps. To his class he says: "I deny the right of any man to attend a case of labor, unless he carries his forceps with him." "When the woman's powers *begin* to fail, when the pains are diminishing in force, frequency and duration, and *before exhaustion has set in*, the instrument should be applied, if it be possible to apply it." He would even apply the forceps within the undilated os uteri, if the occasion demanded it.

The Hypodermic Syringe a Means of Diagnosis in Ovarian Disease.

DR. Henry F. Walker, of New York, commends the above in the May number of the *American Journal of Obstetrics and Diseases of Women and Children*.

As ovariectomy is not justifiable in case of colloid or melanoid degeneration of the ovary, it is important to know beforehand the nature of the contents of the tumor. Tapping is in itself too serious an operation, when performed on an ovarian cyst, to serve as a proper diagnostic measure; but the needle point of the hypodermic syringe is safe, and withdraws enough of the contents for a satisfactory examination, by the retraction of the piston into the barrel.

Incision of Rigid Os Uteri.

AT a meeting of the Philadelphia Obstetrical Society, as reported in the May number of the *American Journal of Obstetrics*, Dr. Goodell remarked that laceration of the os is frequent in natural parturition, and might be imitated "in some rare cases of dystocia from simple rigidity, or from that dependent upon alteration of structure, as in cases of previous inflammation of the cervix, or in cases of procidentia, in which the cervix becomes dense through exposure to the atmosphere." In case of placenta prævia, however, he thinks the operation would be hazardous, on account of the increased vascularity of the cervix, both from danger of hæmorrhage and of septicæmia from the lochial discharges.

Dr. A. H. Smith dreaded nicking the rigid os for the above reasons, and also for fear that the incisions would tear into the body of the uterus.

In regard to placenta prævia, Dr. Goodell stated that he had heard of a case, in which the placenta was detached by the finger, as far as it could reach, and hæmorrhage was checked by subsulphate of iron. A natural delivery followed. Prof. Ellerslie Wallace related a case in which he found the woman already nearly pulseless, with the os only slightly dilated. He packed the vagina with a sponge and administered food and stimulants. She rallied; pains returned, forcing out the tampon; the placenta separated from the cervix; and she was delivered by version.

Ergot vs. the Tampon in Puerperal Hæmorrhage.

DR. O. A. Battson, of Claremont, Ill., gives his views on this subject in the *Medical and Surgical Reporter* of July 30th.

He premises by the enunciation that there is no practical distinction between accidental and unavoidable hæmorrhage, since puerperal hæmorrhage always arises from detachment of the placenta, except when occurring in subjects of hæmorrhagic diathesis. Dr. B. claims originality in the use of ergot for the arrest of hæmorrhage before delivery, and declares that his knowledge of this applicability is derived solely from his own experience.

He considers ergot a hæmostatic in the general sense. After exerting this property, he declares that uterine contractions cease, unless the hæmorrhage has been sufficient, by its sedative action, to cause considerable dilatation of the os uteri. In this case the unruptured amniotic cyst will produce still further dilatation, and the fœtus will be expelled. In case the os be dilated only slightly, or not at all, he feels confident that ergot in combination with laudanum will avert the danger.

His discovery of this property of ergot was made after using it in two cases of hæmorrhage with threatened abortion. Contrary to his expectation, that ergot would promote labor pains, and thus terminate the case, in both instances the hæmorrhage and pains ceased, and the trouble was over.

In proof of its general hæmostatic properties, he uses this

remedy successfully in hæmoptysis, hæmatemesis and dysentery.

In regard to the use of the tampon for puerperal hæmorrhage, Le condemns it as unscientific and unwarrantable. By confining the extravasated blood within the cavity of the uterus, this organ is liable to become so much distended as to produce atony and prevent further contractions. His opinion is, that more women and children have been destroyed by this contrivance, during the hundred years of its use, than died in twice that time before its invention.

The Cæsarian Operation.

Dr. E. L. Feehan, of St. Louis, in the *Medical Archives* for June, reports the case of a German woman, thirty-five years old, who died suddenly in the eighth month of pregnancy. Within ten minutes he extracted the fœtus through the Cæsarian section, and, by means of artificial respiration persevered in for about half an hour, the child was saved.

Dr. Boisluière, of St. Louis, relates twelve cases of this operation, performed within fifteen minutes of the mother's death from eclampsia or cholera, in which two children were extracted alive, but lived only a few minutes.

In 1838 M. Devilliers collected forty-nine cases (two of them cases of twins). Of these seven were dead when extracted; seven survived; thirty-seven lived from a few minutes to several hours. From 1838 to 1860 twenty-one cases were collected, with the following results: eight infants were dead; six survived; seven lived a few hours.

Case of Double Uterus and Vagina.

In the *Lancet* of July 16th Mr. James Lane reports an instance of the above, which was discovered during the present year in the Female Lock Hospital at Woolwich, under the Contagious Diseases Act. "On examination with the speculum, the vagina was found to be divided into two by a thick, strong, vertical septum, complete throughout, commencing immediately behind the urethral aperture, and extending upwards to the uterus, with which it became continuous." The rugæ of the vagina were continued over the septum on either side. At the extremity of each

vagina was an os and cervix uteri, of normal appearance, but smaller than usual. The right vagina was somewhat larger than the other, and more in a direct line with the external orifice. She was unaware herself of any abnormal conformation. It was found that she menstruated equally from both sides.

This is considered an extreme instance of deficiency of union of the two halves of the uterus in its original formation. Non-union of the *body* of the uterus constitutes the uterus bicornis, which has its analogue in certain animals; but in this case the division continued through the cervix and vagina.

Indian Hemp in Uterine Hæmorrhages.

DR. Alexander Silver (*British Medical Journal*, July 16) has found this remedy quite successful in menorrhagia and dysmenorrhœa, both relieving the pain and controlling the flux. He gives twenty to thirty minims of the tincture two or three times a day, combined with aromatic spirit of ammonia.

In hæmorrhages dependent on organic lesions, such as polypoid or fibroid growths and malignant ulcerations, temporary relief is afforded to the pain and flux; but, of course, the relief cannot be permanent from any agent in the materia medica.

ANATOMY, PHYSIOLOGY AND HYGIENE.

Polygamy and the Ratio of the Sexes.

IN a paper read by Dr. J. Campbell before the Anthropological Society of London, the *Medical Press and Circular* states that he had resided many years in Siam, and gave minute details of the relative proportions of male and female births in the harems of the sovereign and principal nobility. His observations went to prove that polygamy has no influence in determining the sex of progeny.

Post-mortem Elevation of Temperature.

THE *Lancet* of June 4th on this subject remarks that De Haën, of Vienna, one hundred years ago, observed that an elevation of temperature occurred in the human body at the moment of disso-

lution, and lasted for some time after death. This observation was soon generally forgotten, and the fact has somewhat recently been re-discovered. M. Valentin has gained a prize at the University of Berne by a paper on this subject, in which the following are among the principal points enunciated: The production of heat after death always takes place, though in varying degrees. Whenever this production exceeds the co-etaneous loss of heat by radiation, the temperature of course rises. The vital processes, which mainly develop animal heat, do not cease immediately with the heart's action; while something may be due also to the action producing *rigor mortis* and also to *post-mortem* decomposition. The loss of heat after death is greatly reduced by the cessation of respiration and diminished evaporation from the surface. The experiments which aided M. Valentin to his conclusions, were made upon the dog, rabbit, pig, marmot, pigeon and frog.

Regeneration of Nerve-Tissue.

THE *British Medical Journal* states that Voit has "proved the reproduction of cerebral tissue in the pigeon, and the coincidence of this reproduction with almost complete renewal of the cephalic functions." Professors Masius and Van Laer, of Liege, conclude from their experiments that the frog has the power of repairing rapidly a loss of substance in the spinal cord, and of recovering its proper functions.

Hippophagy in France.

ACCORDING to the *British Medical Journal*, the first horse-flesh butchery was opened at Paris July 9, 1866. By the end of that year about 180 tons of horse flesh had been consumed. In 1867 the consumption of this meat increased to 430 tons, and in 1868 exceeded 480 tons. The price of horse-beef at Paris is less than half that of ox beef. The consumption of horse-flesh in other parts of France is less accurately known, but is believed to be sufficient to make a total of 2000 tons annually, and to be increasing.

Raising a Dust.

THE connection between dust and disease is now a topic of great interest among European medical men. The *British Medical*

Journal of May 28th reports that a lecture on this subject was read at a late meeting of the Royal Dublin Society, by Mr. Tichborne, Chemist to the Apothecaries' Hall, Dublin. He gave the results of various analyses, made by himself, of street-dust. That of Grafton street—one of the most crowded thoroughfares in the city—contained about 36 *per cent.* of stable manure; and that of a cab-stand in Nassau street contained 45 *per cent.* of organic matter.

In conclusion, the lecturer insisted on the importance of a thorough investigation of the effects of atmospheric dust on the public health of various localities; while he was sensible of the harm which might result from a panic on this subject.

Dust Again.

THE *British Medical Journal* of June 18th makes mention of a paper read before the Royal Irish Academy, of Dublin, by Dr. Geo. Sigerson, F. L. S., entitled "Further Researches on the Atmosphere." In this paper the author gave the result of his examination of *special atmospheres*. In the air of an *iron factory* he found a black and friable dust, composed of carbon, iron and ash. The iron was in small rough pieces, and also in hollow translucent balls averaging over one 2000th of an inch in diameter. In *shirt-factory* air filaments of linen and cotton were abundant, and minute eggs were also seen under the microscope; but it was thought that these might be accidental. The dust of printing offices was found by chemical analysis to contain traces of antimony. *Stable air* contained horse's hair, epithelium, moth-cells, ovules, various fungi, and many other forms of organic matter in abundance. The atmosphere of a dissecting-room was filled with organic particles, which the microscope revealed to consist of particles of white and yellow fibrous tissue, muscular structure, epithelium and *débris*. Tobacco smoke contained numerous globules of hot nicotine.

Ether Drunkenness in the North of Ireland.

THE *Medical Press and Circular* publishes the remarkable fact of the prevalent use of ether as an intoxicant in a few of the northern counties of Ireland. The usual quantity taken at once

is from two to four drachms, undiluted. A mouthful of water is usually swallowed both before and after the ether.

The informant of the above journal does not attribute this practice to a taste acquired from the medicinal use of ether, nor to grounds of economy, but to the efforts of the priesthood to suppress whisky-drinking.

English and American Vitality Compared.

THE *Medical Press and Circular* quotes from the *Providence Journal* figures from a number of English and Scotch Life Insurance Companies, compared with the combined American experience.

“Starting with 10,000 lives at age 10, the American loss the first year is 75; the English 79. At age 20, American loss is 72; English, 56. At age 40, American loss is 77; English, 81. At age 50, American loss is 155; English, 184. At age 80, American loss is 209; English, 186.”

Manganese in Blood and Milk.

THE *Medical Press and Circular* of May 18th reports that Prof. Polucci has announced to the Royal Academy of Sciences of Italy the discovery that manganese is a constant constituent of human blood. This was determined by actual analysis of the blood of more than twenty individuals of different sexes, temperaments, health and professions. In thirty-four analyses of milk, twenty-three human, four from the cow and four from the goat, manganese was found in every case.

The Diet of the Trappists.

THE *Medical Times and Gazette* has an article on the influence of an exclusively vegetable diet, founded on the observations of Dr. Foussagrives in a Trappist convent at Briquebec.

From September 14 till the first Saturday in Lent, they have only one meal a day, which is at 2 P. M., twelve hours after the monks have risen. The previous hours are spent in manual labor and religious exercises. During the remainder of the year they have two meals a day. The change from one meal to two is generally marked by a tendency to diarrhœa; while, after the opposite change, the hunger from the interruption of a meal wears off in the course of a fortnight.

Their ordinary fare consists of about fourteen ounces of bread : soup without any fat, butter or oil, milk being permitted at certain seasons ; and vegetables cooked with water. Meat, fish, butter and eggs are forbidden to those in good health ; oil is used only in salad. They are allowed a dessert of fruit, cooked or uncooked, but no cheese. Their usual table drink is half a litre of cider.

Nothing like severe dyspepsia is known, nor gravel nor gout ; but rheumatism is common. Scurvy is unknown among the monks. Pulmonary consumption exists, but is less rapid in its progress than among their neighbors. The Trappists are rarely visited by epidemics, though in 1831 typhoid fever raged among them.

It is observed that a vegetable diet is resorted to in some countries as a remedy for asthma, and that this remedy is almost infallible. The abbot who had presided among them from 1827 to 1858, during that time recovered from this disease.

In respect to longevity, the Trappists are said to compare very favorably with the world at large ; but much allowance should be made for the regularity and tranquillity of their mode of life.

Organic Matters in the Breath.

WE observe in the *Medical Times and Gazette* of March 19, that Dr. Ransome, of Manchester, has been making experiments to determine the organic nitrogenous matters exhaled from the lungs in health and disease. He makes use of the ammonia process of Wanklyn, Chapman and Smith, and estimates the total amount of azotized substance in the breath daily of a healthy person to be about three grains, being pretty constant in health, while in disease it is quite variable. On the other hand, the free ammonia in the breath of healthy individuals is far from constant.

It is noticeable that the azotized matters in the breath are increased in Bright's disease ; while in catarrh, measles and diphtheria they are diminished.

Buttermilk for Infants.

THE *Medical Times and Gazette* of March 26 has a communication from Dr. A. M. Ballot, of Rotterdam, on this subject, in which he expresses a high opinion of its usefulness for nursing infants.

He makes three classifications of buttermilk: (1) That from the cream exclusively, obtained after the separation of the butter by churning; (2) that obtained after churning all the milk for butter; (3) that obtained from skim-milk, which has been churned when no longer fit for sale. The qualities correspond to the numbers prefixed.

For a normal buttermilk, he takes (2), which differs from normal milk in the loss of most of the butter and the conversion of most of the milk sugar into lactic acid.

The following table gives his comparison between buttermilk and mother's milk:

	Average quantity in buttermilk.	Average quantity in mother's milk.
Caseine	43.8	34.3
Milk sugar	23.6	48.2
Butter	2.0	25.3
Salts	5.6	2.3
Total solids	78.25	116.4
Water	921.75	883.6
Lactic acid	2.75	nil.

Notwithstanding the increased quantity of casein in the buttermilk, to the presence of which in ordinary cow's milk its indigestibility for infants is attributable, it is found to be easily digested by the infant stomach. This fact is ascribed to the presence of lactic acid in the buttermilk, which is supposed to play the same part as this acid does in the human stomach, where it exists free—that is, it renders the buttermilk already half-digested. The casein of buttermilk has, in fact, lost the power of being coagulated by rennet and the strongest acids.

Dr. Ballot prepares the buttermilk by adding a spoonful of wheat flour to a litre of the milk and boiling for a few minutes. To a pint of this pap eight or ten decigrammes of sugar are added. He prefers to use this preparation as an adjunct to suckling, and begins as early as the third week of infancy. He gives it from a bottle with a nipple immediately attached, at 96° F., and observes that it should be withheld in case of diarrhoea.

Weight of Human Brains.

THE *Medical and Surgical Reporter* of July 8th quotes from the *Journal of Mental Sciences* this table of the weight of the brains of several distinguished men :

	Age.	Oz.
Cuvier, naturalist.....	63	64.5
Abercrombie, physician.....	64	63.
Spurzheim, physician.....	56	55.06
Dirichlet, mathematician.....	54	53.6
De Morny, statesman and courtier.....	50	53.6
Daniel Webster, statesman.....	70	53.5
Campbell, Lord Chancellor.....	80	53.5
Chalmers, celebrated preacher.....	67	53.
Fuchs, pathologist.....	52	52.9
Gauss, mathematician.....	78	52.6
Dupuytreu, surgeon.....	58	50.7
Whewell, philosopher.....	71	49.
Hermann, philologist.....	51	47.9
Tiedemann, physiologist.....	80	44.2
Hausmann, mineralogist.....	77	43.2

[To these may now be added

Simpson, physician..... 54.]

Effects of Phonation on the Respiratory Organs.

THE *Medical Press and Circular* of June 29th observes that physicians at Paris and London have noticed that actors and singers are singularly exempt from diseases of the respiratory organs. A Miss Emily Faithfull has mentioned that, after public lecturing for two years, she has recovered from the asthma, which had troubled her from childhood. The editor adds his personal testimony to a similar experience in like cases.

Physiological Action of Meat Broth, Meat Extract and the Potassa Salts of Meat.

THE *Medical and Surgical Reporter* of July 16th contains a translation of an article on this subject, by Dr. E. Kennerich, from which we condense.

Liebig's extract and the common broth of flesh consist essen-

tially of two distinct chemical substances—mineral salts, chiefly those of potassa, and extractive matters of meat. Liebig ascertained that meat broth contributes to the growth of the tissues and also increases the activity of the heart. Traube and Claude Bernard have concluded that the potassa salts exercise a depressing influence on the heart's action.

To harmonize the views of the two latter with Liebig, it must be assumed that the extractive matters of the broth accelerate the pulse, while the potassa salts promote the tissue-building operations.

By experiments on the rabbit, the author arrived at conclusions quite at variance with with these doctrines. Having prepared about 150 c. c. (about eight cubic inches) of broth from about 8½ pounds of horse-flesh, he threw 30—50 c. c. into the stomach of a rabbit, by means of a catheter. The animal died within two hours, with symptoms of cardiac paralysis, having passed through a stage of excitement, followed by depression. The pulse first rose from 240 to 400, and the respiration from 120 to 180, in the minute. Subsequently the animal seemed fatigued; the ears and skin became cool; the pulse became slow and the respiration irregular; and at last death took place generally, with slight convulsions.

When the meat broth is administered not freely enough to produce toxic effects, the stage of excitement only is produced.

He then subjected a quantity sufficient to kill a rabbit to incineration, by which the organic matters were destroyed, leaving chiefly potash salts. The residue, dissolved in water, killed the rabbit with the same symptoms as the meat-broth. He afterwards experimented with pure chloride of potassium and nitrate of potassa on both rabbits and human beings, and found that, in proper doses, they increase the force and frequency of the pulse, without subsequent retardation below the normal standard, even after hours, contrary to the doctrine of Bernard and Traube.

After these experiments on the soluble constituents of meat, Dr. Kennerich made trial of the insoluble residue, after the extraction of the salts and the broth. Liebig had maintained that this residue was innutritious. Dr. K. accordingly fed two young

dogs on this residue, to which were added the salts determined by analysis to have existed in the fresh meat. The dogs grew and thrived. He afterwards fed two dogs of six weeks old and nearly the same weight with the meat residue; one dog received in addition a certain quantity of common salt, and the other the common salt and a corresponding quantity of the meat-broth salts. In twenty-six days the first dog grew 810 grms. only, was very weak and emaciated; while the other grew 2085 grms., was fat and lively. On reversing the plan of feeding, in thirty-one days the first dog got ahead of his fellow 160 grms. in weight.

Finally Dr. K. showed by experiment that Liebig's extract of meat *alone* has no nutritious value. For five days he gave to one dog water only, and to another a small quantity of meat extract. The weight of the first had then diminished 110 grms., and that of the second 172 grms. In another experiment, the dog taking water alone lost 492 grms. in twelve days, and the one fed on meat extract lost 574 grms. The last dog then died, while the other survived, on being supplied abundantly with food.

Digestibility of Milk.

DR. STEPHEN ROGERS, of New York, in a communication to the *Medical Gazette*, explains why cow's milk is generally digested with more difficulty than mother's milk, on the ground that it is taken into the stomach too rapidly, when drank from a cup or spoon. If sucked from a bottle, it is then thoroughly mixed with the gastric juice, and cannot form large solid clots, as we often see them thrown up soon after being swallowed.

Influence of Stoves upon Health.

THE *Dublin Quarterly Journal of Medical Science* for May observes that the experiments of Gen. Morin, H. St. Claire Deville, Froost, Canet and Prof. Graham prove that carbonic oxide gas is capable of transmission through iron heated to redness. The atmosphere of a close room may thus be seriously contaminated. Stoves are most heated by the densest kinds of fuel, as anthracite, and after it the other varieties of coal. These facts point to the importance of lining stoves intended for such fuel with fire-brick or soap-stone; of having as few and perfect joints as possi

ble, and those horizontal, rather than vertical; of allowing a free supply of air to the fire and a free escape of the gases produced by combustion to the chimney.

Laws of Pigmentation.

IN the *Medical Press and Circular* of July 6th, A. Bleloch, M. A., etc., observes that cutaneous discolorations are closely allied to natural pigmentation, except when due to bile pigment misdirected to the surface in the circulation, or to extravasation of blood in the skin. The natural pigments are all carbonaceous, except perhaps the green of feathers and the red of beet-root. In tropical countries, with a high temperature and abundance of moisture and light, plants fix carbon in great abundance, and hence become luxuriant and brilliant in hues. The plumage of birds is more resplendent in tropical climates, because the atmosphere is rarer, and less carbon is required for consumption to produce animal heat.

On the other hand, in temperate climates, certain animals which are brown in summer, become white in winter. In the Polar regions most of the land animals are white, because their carbon is all required to preserve animal heat. The water being warmer than the air, animals living in the sea exhibit pigmentation.

The same law holds with the human race. The inhabitants of intertropical Africa subsist mostly on carbonaceous food, little of which is required for animal heat. Carbon is therefore excreted from the skin and leaves its mark. The Esquimaux use a highly carbonaceous diet, and for a large part of the year live in a high temperature, within their crowded huts. Much of their carbon goes to the skin.

The pathological production of pigment is attributable (1) to imperfect oxidation of carbon, to be eliminated as carbonic acid, lactic acid, etc.; (2) to imperfect elimination of carbon proper, when that is a normal excretion, as in hairs and epidermic scales; (3) to the production of carbon from highly carbonaceous food. The pigmentation in leucocytosis, the anæmia of chlorosis, Bright's disease, and others in which the hæmaglobulin is defec-

tive in oxygenating power, is due to the retention of waste carbonaceous matter, which seeks an outlet through the skin. The same effect takes place when the lungs, through disease, are incapable of eliminating carbonic acid; or the liver and kidneys fail duly to eliminate the coloring matters of the bile and urine.

Minnesota for Tuberculous Invalids.

IN a discussion of the climate of Minnesota, by the State Medical Association, (*North-western Medical and Surgical Journal*, July) all agreed about the beneficial effects of their cool, dry atmosphere. There was a difference of opinion, however, about the best time of the year for coming, varying from the summer to the winter months.

According to Dr. Murphy, those who find themselves benefited by a visit and then return to their former homes, are very liable to relapse. He thinks it important that they should become permanent residents.

Dr. Adams remarked that he had not known a case of pulmonary consumption to originate in the State during a 16 years' residence.

Several of the speakers did not regard hæmoptysis as a necessary indication of phthisis.

The Relation of Intelligence to Volume of Nervous Structure.

The Medical Times and Gazette of February 5th reports that a paper was read at a late meeting of the Académie on the above subject, by M. Colin. To determine this, he weighed in succession the entire animal, the brain, cerebellum, medulla oblongata and the spinal cord, and then made a comparison of these weights in different animals. The following is the result among the domestic animals:

1. The relation between the weight of the nervous centres taken altogether and that of the body varies within very wide limits, not only in different species, but also in the same species, and especially according to the age of the subjects, the degree of the development of the muscular system, and the condition of the adipose system. 2. The encephalic mass is, proportionally to the height, much more considerable in small than in large animals. Thus man, as far as the volume of the brain is concerned, is inferior

to several apes, to various carnivora—*e. g.*, the weasel—to the small rodents, and even to a great many birds. 3. In the same species the volume of the nervous centres is relatively to the mass of the body in a proportion inverse to the age, the young subjects having two, three, four, six, and even eight times as much brain as the adults. 4. The domestic animals may be classed, as regards the weight of the encephalon, in the following order, which is not that of their intelligence, the cat, dog, rabbit, sheep, ass, pig, horse, and ox, the first having about six times as much brain as the two last. 5. In the species of which the races are of very different statures, the smaller have proportionally the largest brain, whatever may be their relative degree of intelligence. 6. The mass of the spinal cord does not bear a constant relation, either to the weight of the encephalon or that of the body, nor yet to the muscular power of the animals. It may be very small in animals with a large brain, or enormous in the contrary case. It is often two or three times more considerable in the small than in the large species. 7. In fact, there is no exact relation in animals between the volume of the encephalon and the degree of intelligence ascertained by observation. Consequently, animals would be badly classified in a psychological point of view if this were done according to the weight of their nervous centres.

The Source of Muscular Force.

THERE are at present two theories of the source of muscular force: (1) that it arises from decomposition of the nitrogenous substance of the muscle, in which decomposition oxygen plays a part—though not an essential part: (2) that it is due to the combustion of non-nitrogenous material.

The former theory is that maintained by Liebig, the latter is denied by Liebig, who urges objections to it in the third section of his recent memoir.

This theory was propounded by Fick and Wislicenus a few years ago, and developed by Frankland, whose statement of the *modus operandi* during muscular action is as follows:—

Both the oxygen and the combustible nutritive material are contained in the blood which circulates through the muscle. So long as the muscle is at rest they do not act chemically upon one another, but so soon as the brain sends an impulse to the muscle through the nerves, so soon oxidation begins. In this oxidation potential force becomes actual force, part of which takes the form of mechanical motion, and part the form of heat. Such is the source of the muscular power and of the heat which accompanies muscular exertion. The muscle itself is somewhat analogous to the piston and cylinder of a steam-engine, and the urea formed during the muscular action is to be looked upon in the light of material which has degenerated by friction, being the index to the mere wear and tear of the instrument.

This view owed its origin to the now well known ascent of the Faulhorn by Fick and Wislicenus, which was performed on a strictly non-nitrogenous diet, and during which the excretion of urea was determined, and found not to be increased above the average.

Fick and Wislicenus argued that inasmuch as they took no nitrogenous food, and excreted no more nitrogen than usual in the form of urea, and yet performed an excessive amount of muscular work, it is impossible that muscular forces can be the result of decomposition of muscle into urea and other products, and that therefore muscular forces must have another source, and that source they declared to be the oxidation of non-nitrogenous matter which they received into their bodies in the shape of the non-nitrogenous diet indulged in during the memorable Alpine journey.

Liebig points out that they omitted to determine the quantity of nitrogen passed in the feces, and that they did not weigh themselves before and after the journey.

If the animal economy were like a gun instead of being like a watch, reasoning such as the above might be valid. Quoting some experiments by Dr. Parkes, he shows that the increase in the excretion of urea is to be observed a *few days after* violent exercise. He further points out that the production of urea in the body is not exclusively due to muscular action, and cannot therefore be looked on as the measure of muscular decomposition. Liebig's own account of muscular action is that during it the products of metamorphosis accumulate in the structure of the muscle, and that this accumulation occasions the well-known sense of muscular fatigue. After the muscular exertion is over there is gradual cleansing of the muscular structure, and with this cleansing the sense of fatigue goes away also. Against the theory that oxidation of non-nitrogenous material in the circulating fluid is the cause of muscular action, he adduces the fact that isolated pieces of muscular structure which have been washed with a weak saline solution exhibit muscular action when properly stimulated.—*Medical Times and Gazette*, June 18-

MATERIA MEDICA AND CHEMISTRY.

New Tests for Albumen.

CHAS. M. TIDY, M. B., Lecturer on Chemistry at the London Hospital, communicates to the *Lancet* two new tests for albumen, much more delicate than the ordinary ones of heat and nitric

acid. The first is a mixture of glacial acetic acid and carbolic acid. This preparation must be carefully made, as too little acetic acid prevents the carbolic acid from entire solubility in healthy urine, and gives a slight opalescence, which might be mistaken for a trace of albumen. On the contrary excess of acetic acid will redissolve the albumen. His plan is to mix equal volumes of the two acids. If then, on adding a few drops of the mixture to water in a test tube and shaking, the liquid remains clear, it is satisfactory. If it is not clear, he adds a little more acetic acid.

His second plan is as follows: "Add to the liquid to be examined in a test tube ten minims of alcohol (specific gravity of 0.85), shake thoroughly, but *gently*, so as to avoid the production of froth. Then drop in the same quantity of carbolic acid, and shake very thoroughly. Allow it to stand for a minute; and if the merest trace of albumen is present, distinct flocculi will be seen floating in the liquid."

He adds that he has found nothing in urine giving this reaction to the above test, except albumen.

Substitute for Quinine.

It is stated, in the *Lancet*, that M. Pavia, an Italian professor of chemistry, has procured an alkaloid from the leaves and roots of boxwood, which he calls bussine. In the experience of several Italian physicians, this substance has been found to possess virtues nearly equal to those of quinine in the treatment of miasmatic fevers. In several cases gastric uneasiness, pyrosis, thirst, nausea, giddiness and tinnitus aurium were attributed to the use of the remedy.

Impurities in Bromide of Potassium.

ARTHUR E. DAVIES, Ph. D., F. L. S. etc., communicates to the *Lancet* the result of an analysis of ten specimens of the bromide usually sold in the shops. The following table gives a synopsis of the examination and its developments.

	1	2	3	4	5
Moisture	1.50	0.75	1.05	0.69	1.00
Bromide of Potassium ..	84.19	81.00	85.90	69.00	81.21
Chloride of Potassium....	10.95	12.93	7.46	24.93	12.61
Iodide of Potassium.....	None.	1.04	None.	None.	0.99
Bromate of Potassa.....	0.68	1.99	3.33	4.03	2.09
Sulphate of Potassa	2.62	2.20	1.74	2.21	1.97
	<hr/> 99.94	<hr/> 99.91	<hr/> 99.48	<hr/> 100.86	<hr/> 99.87
	6	7	8	9	10
Moisture	2.30	0.75	1.75	2.01	2.57
Bromide of Potassium...	86.23	83.00	79.79	81.52	78.59
Chloride of Potassium ..	9.40	7.47	10.01	12.65	13.19
Iodide of Potassium	None.	None.	None.	Trace.	1.41
Bromate of Potassa.....	None.	4.98	6.62	2.10	3.29
Sulphate of Potassa	1.57	4.06	1.46	1.99	1.22
	<hr/> 99.50	<hr/> 100.26	<hr/> 99.63	<hr/> 100.27	<hr/> 100.27

The impurities are attributed to two sources: adulteration of the materials used, and imperfections in the process of manufacture; for he does not suppose that they are often added fraudulently. The moisture and the bromate might be charged to fault in preparation, while the others are to be imputed to impurity of the potassa and bromine used by the manufacturer.

Therapeutical Value of Flowers and their Essences.

THE *Lancet* of June 11th has some remarks upon the late investigations of M. Mantegazza on this subject, the result of which he communicated to the Institute of Lombardy.

It appears that the essences of mint, turpentine, cloves, lavender, bergamot, anise, lemon, fennel, nutmegs, cajuput, thyme and cherry-laurel, when exposed to bright sunlight, develop ozone even more abundantly than phosphorus, electricity, or permanganate of potassa when decomposed. They require full exposure to the direct rays of the sun, and in this way the supply, even from a small quantity, is abundant and continuous. For this purpose, the most valuable essences were those of the cherry-laurel, palmarosa (English name unknown), cloves, lavender,

mint, lemon, fennel and bergamot; anise, nutmeg, cajeput and thyme evolved ozone less abundantly. Camphor, notwithstanding its powerful odor, was found inferior to those just mentioned. The flowers of the narcissus, hyacinth, mignonette, heliotrope, lily-of-the-valley, and other fragrant flowers, when kept in close vessels in the open sunlight, produce ozone: while less fragrant flowers evolve less, and odorless ones none at all.

Prof. Mantegazza therefore concludes that the cultivation of fragrant flowers might prove highly salutary to those living in miasmatic districts, from the well-known disinfecting property of ozone over all organic, disease-producing germs. He even recommends that laborers in rice-fields, while at work, carry round their necks little sponges impregnated with some aromatic essence.

Skimmed Milk as a Remedy.

THE *Medical Press and Circular* of May 11th remarks as follows: "Dr. Donkin advocates the use of skimmed milk in albuminuria diabetes and fatty degeneration. The milk should not be boiled, but be taken warm or cold, and six or seven pints may be used by the adult in the twenty-four hours. The cream must be very carefully removed, Dr. Donkin says, as it is injurious in cases of diabetes. The milk should, therefore, stand twenty-four hours, when the weather will permit it, before being skimmed."

Cod-Liver Cream.

THE *Druggists' Circular and Chemical Gazette* quotes from the *London Pharmaceutical Journal* directions for preparing this article, which will be of interest to prescribers.

One-fourth ounce of fine gum tragacanth is treated with one pint of cold water for twenty-four hours, and stirred occasionally. The mucilage thus formed, when mixed with cod-liver oil in equal proportions and well shaken, permanently emulsifies the oil. It is recommended to sweeten, and flavor with one drachm of brandy, one drop of essence of lemon, the same of essence of almond and a trifle of oil of cassia, to each ounce of the mixture.

Death from Bichloride of Methylene.

THE *British Medical Journal* of May 7th reports a case which occurred at Guy's Hospital, after iridectomy had been performed on both eyes. One measured drachm of the anæsthetic was used. While it was administered for the first operation, the patient struggled violently and turned blue. The methylene was withdrawn before the operation was finished, and he became quiet. During the administration for the second operation, his behavior was normal, and complete abolishment of pain was not produced. About three minutes after the operation was finished, his breathing began to grow feeble and the radial pulse failed. Galvanism for ten minutes and artificial respiration for an hour failed to restore the vital functions.

Post-mortem examination failed to throw any light on the cause and mode of death.

Liquid Nitrous Oxide.

THE *British Medical Journal* states that this gas is reduced to the liquid state on a large scale by several London manufacturers. It is contained in iron bottles measuring nine inches by three, which contain fifty gallons each of the gas.

The pressure used to condense the gas is about 750 lbs. to the square inch; but at 33° F. it is said to liquefy at a pressure of thirty atmospheres, or 450 pounds to the square inch. The advantage in respect to portability is quite obvious, and it is even thought that the quality of the gas is rather improved than injured.

Excessive Doses of Bromide of Potassium.

THE *Medical Press and Circular* states that M. Vulpian, in his clinic at the Salpêtrière, has observed ill effects from large doses of this remedy, which has generally been considered harmless even in its abuse. In four cases an alarming prostration followed its prolonged use; in two of which there were involuntary stools, and in a third pain in the throat and dysphagia. In these cases the bromide was withdrawn, and acetate of strychnia administered.

Chloral an Antidote for Strychnia.

THE *Medical Press and Circular* reports the case of a dog accidentally poisoned with strychnia, and in violent tetanic spasms. Under the exhibition of chloral the spasms were interrupted; and, having returned, were finally arrested. There was no coma from the chloral, and the dog recovered.

Bromide of Potassium.

THE *Medical Press and Circular* relates that a paper by M. Namias, of Venice, has been read before the Academy of Sciences on the action of this salt. He concludes, from his investigations, that it accumulates in the system, from its slow elimination through the kidneys. M. Balard, in reviewing the above paper, remarked that the soda salts were better tolerated by the human economy than those of potassa, and that it was to be regretted that the bromide of sodium had not been introduced in preference to the present salt.

Test for Carbolic Acid.

THE *Medical Press and Circular*, May 25th, observes that a drop of muriated tincture of iron added to a solution containing a minute quantity of carbolic acid, strikes a purple color. This is easily distinguished from the blue reaction produced on guaiacum.

Mrs. Winslow's Soothing Syrup.

THE *Medical Press and Gazette* of March 19th gives an analysis of this American nostrum. Contrary to the general impression, no morphia was detected in it. A bottle containing 50 c. c. had, of cane-sugar, 26.8 grammes; of absolute alcohol, 2.2; oil of aniseed, a trace; water, 30 grammes. The active ingredients are, therefore, alcohol and aniseed, a teaspoonful containing three grains of absolute alcohol (equal to a quarter of a teaspoonful of sherry wine).

[In a specimen which we lately subjected to the nitric-acid test, the characteristic reaction of morphine was produced on boiling.]

Arsenic in Rosaniline.

DR. RIECKHER, of Marburg, Prussia, communicates to the *Medical Times and Gazette* of June 4th, his discovery of a dangerous amount of arsenic in those pigments known as fuchsine, magenta, rosaniline or aniline red. One specimen analyzed by him contained 2.073 per cent. of arsenious acid and 7.593 per cent. of arsenic acid. Another gave 1.008 per cent. of arsenious acid and 4.4705 of arsenic acid.

[The poisonous socks, which produced a great sensation a year or two ago, were died in aniline colors. At that time people were warned not to wear such colors next to the skin, as arsenic was understood to be a common constituent or impurity in the aniline dyes.]

Therapeutic Application of Glycerine.

THE *Medical and Surgical Reporter* of July 9th quotes from Dr. G. W. Semple, that glycerine, when applied to hæmorrhoidal tumors, produces an abundant exosmosis of serum, thereby reducing the congestion and inflammation.

In a case of tumid inflammation of the uvula and parynx, extending even to the maxillary antrum, he availed himself of the diffusive property of glycerine. Having made a mixture of carbolic acid, \bar{v} in glycerine $\bar{f} \bar{v}$, he introduced it into the nostril on his finger. The patient soon perceived the taste in his mouth. In this manner the remedy was able to relieve the congestion of all the parts involved, by promoting a copious mucous secretion, and the inflammation subsided.

Hydrate of Chloral.

DR. T. S. CLOUSTON, Medical Superintendent of the Cumberland and Westmoreland Insane Asylum, communicates to the *British Medical Journal*, of May 7th his experience with this new remedy. The following is his summing up:

1. "It has proved a most safe and certain sleep-producer. It seems certain that by it we can compel sleep in any case."

2. "By means of this property, attacks of insanity may probably be warded off in some cases."

3. "Its action in abating and soothing excitement is more un-

certain than its sleep-producing power, and lasts a shorter time than that of any signally powerful drug; but it is most valuable in certain cases, especially in some recent and curable ones, where formerly we should have been afraid to give opium. It has no directly curative action, but it evidently would be so employed as to tide over short attacks of insanity, and to prevent certain cases from being sent to lunatic asylums."

4. "Whether it does good or not, it never harms. In this respect it is the very king of all narcotics."

5. "Its effect on the temperature of the body is variable in different cases, and in the same case at different times; but generally it is to reduce the temperature slightly, taking the average of a number of patients. It differs from opium in this respect, which raises the temperature; but the reduction caused by chloral is not nearly as great as that caused by alcohol in large doses."

6. "It should be given to subdue brain-excitement in doses beginning at twenty or thirty grains, repeated from three to five hours. To produce sleep in great excitement, from forty to sixty grains are required, the latter dose not failing in one per cent. of the cases."

MEDICAL NEWS AND MISCELLANY.

Proceedings of the Medical College Convention at Washington, April 29th and 30th, 1870.

A notice of the proceedings of this body was crowded out of our last issue. The report of Prof. S. M. Bemiss to the Faculty of the Medical Department of the University of Louisiana, in relation to these proceedings, which will be found in that issue, embodied however the main points of interest and leaves but little to be recorded in this number. In fact we have only to add to Prof. Bemiss' report by way of appendix the proceedings of the afternoon session of the last day, and our readers will have been provided with a record of all that was done. These final proceedings were suggestive and prospective; and as Prof. Bemiss' report referred only to what was done—or rather we should say to what the convention failed to do—it is presumed the reporter did not deem it necessary to embody them in his paper. Notwithstanding the admitted failure to effect anything positive at this meeting it would seem that the hope of being able to do so in the future has not yet been abandoned, as will be seen by the following extract from the proceedings, as fur-

nished us by the secretary, Prof. N. S. Davis, of the last session :

“ Evening Session.—The secretary read the resolutions offered by Prof. Logan, previous to adjournment, *i. e.* :

WHEREAS, This Convention has failed to secure the assent of a majority of the regular Medical Colleges of the United States, to the system of improvement in medical education, recommended at its last session ; and

WHEREAS, It is the opinion of this convention that the best means by which a judicious system of gradual improvement in medical education can be inaugurated by the Medical Colleges of this country, will be found in the *associated action* of such colleges as will unite for that purpose ; it is hereby

Resolved, 1st. That a committee of nine be appointed, whose duty it shall be to communicate with the Faculties of all the regular Medical Colleges in the United States, with the view to ascertain how many and which may be willing to become members of an *Association of Medical Colleges*, having for its prime object the improvement of medical education.

2d. That the chairman of said committee be instructed, as soon as he shall have received affirmative replies from ten regular colleges, to inform each faculty so consenting, of the fact, and to request that each faculty elect one or more delegates, to convene on the Friday before the day appointed for the meeting of the American Medical Association, in 1871, and at the place of meeting chosen by that body, said delegates to be fully authorized to pledge their respective faculties to the acceptance of whatever definite plan of improvement in medical education may be adopted by the body in convention.

3d. That it is hereby recommended that said delegates organize themselves, in behalf of their respective institutions, into a permanent *Association of Medical Colleges*, for the above mentioned object, and with the view of co operating with the American Medical Association and the profession at large in efforts to accomplish so desirable an end.

4th. That Prof. N. S. Davis, the chairman of the committee appointed by the convention of 1867 to communicate with the medical colleges on the same subject, be made the chairman of this committee, and that the committee be authorized to fill any vacancies which may occur in its ranks.

On motion of Prof. Bemiss they were unanimously adopted.

The Vice President, in the chair, filled the committee called for in the first resolution as follows :

Prof. N. S. Davis, of Chicago, chairman.

Prof. Samuel Logan, of New Orleans.

Prof. A. Hammer, of St. Louis.

Prof. T. Parvin, of Louisville.

Prof. S. D. Gross, of Philadelphia.

Prof. A. C. Post, of New York.

Prof. Geo. C. Shattuck, of Boston.

Prof. Geo. C. Blackman, of Cincinnati.

Prof. A. P. Tally, of Columbia, S. C.

After the usual votes of thanks, etc., the convention then adjourned *sine die*.

The American Medical Association.

THE *Boston Medical and Surgical Journal*, June 23d, contains a communication from Dr. J. L. Sullivan, of Boston, in defense of the Association from certain charges at its late annual meeting at Washington. We have space only for a brief abstract of his communication.

The Association, as a representative body, can receive only accredited delegates from organizations entitled to representation. As happens in other representative bodies, seats are liable to be contested, and the Association has to decide between rival claimants, according to its rules and regulations. Judgment must be passed also, when dispute arises upon the validity of credentials presented. It was therefore necessary to consider the questions at issue between the Medical Society of the District of Columbia and the National Medical Society of that District. The former had protested against the admission of delegates from the latter, on the ground that the latter society had been organized in violation of the Code of Ethics of the American Medical Association, and had consequently infringed on its provisions.

These charges are necessarily referred to the Committee on Ethics, who disagreed and brought in a majority and minority report. A hearing was then granted to both sides, as the alternative of blindly adopting one or the other report; and after a patient and impartial investigation, a verdict was given against the claims of the National Medical Society of the District of Columbia. The question was purely one of medical ethics, whatever may be asserted to the contrary by partizan newspapers and excited politicians.

Sir James G. Simpson, Bart.

THE London medical journals inform us that this, the most eminent obstetrician of his time, died at Edinburgh on 6th May, after a two months' illness.

He was born in 1811 at Bathgate, Linlithgowshire, and was the son of a baker. By the aid of an elder brother he entered the University of Edinburg in 1830, and having gained the Macpherson Bursary, he passed into the Medical Department, where he took the degree of M. D. in 1832.

In 1840 he obtained the chair of Midwifery at his Alma Mater, which he filled with honour to the institution and high distinction to himself until his death.

In November, 1848, he inhaled chloroform, in company with some medical friends, and soon brought it into notice in midwifery practice. The introduction of general anaesthesia into surgical and obstetric practice is probably due more to his advocacy than that of any other individual.

In 1852 he was elected President of the Royal Medico-Chirurgical Society of Edinburgh.

In 1860 he began to advocate the use of acupressure, which he expected to supercede the ligature, and to secure the primary union of wounds generally:

In 1866 Prof. Simpson's services and worth were recognized and rewarded by his sovereign with a baronetcy.

His death was preceded by a rheumatic attack, in which the heart became involved. After death this organ was found to have suffered from fatty degeneration, with an atheromatous deposit in the mitral valve and an aneurismal pouch connecting with the left ventricle.

James Syme, F. R. S. E., D. C. L., etc.

SCARCELY had the grave closed over Simpson, when the University of Edinburgh lost also her great surgical teacher. James Syme died on June 26th, at Edinburgh. More than twelve months previously he suffered an attack of paralysis, from which he recovered, but which was followed by his resignation of the chair of Clinical Surgery and the post of Surgeon in the Royal Infirmary, within a few months. In April of the present year a more severe attack occurred, from which he did not rally, though for some time his mind was not impaired.

His precise birthplace is not agreed upon, but it was certainly in Scotland, in November, 1799. He was educated at the High School of Edinburgh, and had also a private tutor. In the spring of 1819 he entered the dissecting-room of his kinsman, Mr. Liston, and the following winter became his Demonstrator.

In 1822 he became M. R. C. S. L., and soon after succeeded Mr. Liston as private lecturer on anatomy.

In 1825 he began to lecture on Anatomy and Surgery at Edinburgh, Dr. Mackintosh being his associate and lecturing on some other subjects. On account of difficulty in obtaining dissecting material he soon gave up Anatomy, and confined himself to Surgery. In 1829-30 his surgical class numbered 259, and about this time he established a private Clinical Surgical Hospital.

In 1833 he obtained the chair of Clinical Surgery in the University of Edinburgh, and the following year the Surgency of the Royal Infirmary. The professorship was gained by an annuity of £300 to his predecessor for retiring.

In February, 1849, Mr. Syme went to the University College Hospital, London, as Surgeon and Professor of Clinical Surgery, but resigned three months after in consequence of being required to teach both Systematic and Clinical Surgery. Returning to Edinburgh, he obtained again his old position in the University, which had not yet been filled.

In 1869 he received the honorary degree of M. D. from the University of Bonn, and that of D. C. L. from Oxford.

The works of Mr. Syme, which will probably be the most enduring monuments to his memory, are his "Principles of Surgery," which passed through several editions under his supervision; and his contributions to operative surgery, especially the external section of the urethra for stricture; and his method of amputating the foot—both operations being distinguished by his name.

Anzias-Turenne.

THE *Lancet* of June 18th informs us of the recent death of this well-known inventor and advocate of "Syphilization," at Paris. His honesty in the support of the only scientific contribution connected with his name, is demonstrated by the fact that he died poor and the discovery of numerous scars of syphilitic inoculations on his body after death.

Sir James Clark, Bart., M. D., K. C. B., F. R. S.

THE London Medical journals bring us the intelligence that this medical veteran died on June 30th, at the great age of 82, the immediate cause of his death being hæmorrhage of the stomach, though his health had for some time been feeble.

He was born at Cullen, in Banffshire, Scotland, and was educated at King's College, Aberdeen, and at the University of Edinburgh. Having become member of the Colleges of Surgeons at Edinburgh and London, he served as Assistant-Surgeon in the navy for several years. After resigning he took the degree of M. D. at the University of Edinburgh, and subsequently the membership of the London College of Physicians. He then remained for some time at Rome, as a private practitioner.

Dr. Clark became Consulting Physician to the King and Queen of the Belgians, and Physician Ordinary to the Duchess of Kent and the Princess Victoria, previous to the accession of the last to the throne. After her coronation he was appointed First Physician in Ordinary to her majesty, and subsequently created a Baronet.

Although Sir James Clark never was a medical teacher, he was well known as a writer on the relations of Climate and Disease, and on Pulmonary Consumption and Scrofulous Diseases. From his position as Court Physician for more than thirty years, he exercised a great influence in the profession. It is supposed that

the medical baronets created during his term of office, owed their elevation chiefly to his recommendation, and the medical public have acquiesced in the soundness of his judgment. It is remarkable that, while his influence at court was almost supreme in medical matters, he should have kept free from the charge of partisanship. •

James Copland, M. D., F. R. S.

WE learn from the *Lancet* that Great Britain has lost another medical celebrity, being the fourth within a few weeks, and all of Scottish birth.

Dr. Copland was born in the Orkneys, in 1791, and was the oldest of nine children. In 1807 he entered the University of Edinburgh, in the expectation of preparing for the Church. This plan was, however, abandoned, and in 1811 he began the study of medicine, taking the degree of M. D. in 1815. He then proceeded to London, and afterwards prosecuted his medical studies at Paris and in Germany. In 1817, with the view of studying tropical diseases, he accepted a proposition from the African Company to practice on the Gold Coast.

On his return from Africa he made another tour on the continent of Europe, and settling at London in 1820, he began his contributions to medical literature. In 1822 he founded the *London Medical Repository*, of which he continued editor five years. In 1825 he projected his great work, "An Encyclopædic Dictionary of Practical Medicine." His labors on this work, from its actual commencement in 1830, were finally completed in twenty-eight years by himself alone, while attending to the arduous duties of a large practice.

Dr. Copland was the recipient of many scientific honors. Among others may be named the Fellowship of the Royal Society in 1833, and the Fellowship of the Royal College of Physicians in 1837.

About the end of June Dr. Copland was attacked with hæmaturia. Enlargement of the prostate was shortly afterwards discovered. All efforts to stop the hæmorrhage were but partially successful. Stupor from uræmic poisoning gradually set in, and death finally occurred on July 12th.

Prof. Von Graefe.

THE *Lancet* of July 30th brings intelligence of the recent death of the most eminent ophthalmologist of the age. Albrecht von Graefe was the son of an oculist of note at Berlin, where he entered, about 1851, upon the career which soon became famous, and which has just come to an untimely close. Within this period of less than twenty years a large portion of the most successful oculists in the world have enjoyed his personal instructions, and are proud to be known as his disciples.

Among his contributions to ophthalmology, iridectomy is the most important, and will ever render his name illustrious. A writer in the *Ophthalmic Review* has uttered the following: "it is perhaps not too much to say that there can hardly be, either in Europe or America, a community of ten thousand people which does not contain at least one individual who is in the enjoyment of vision that has been preserved by iridectomy, and who, if Von Graefe had not lived, would now be unable to see the sun."

Pulmonary consumption was the cause of his death, which is said to have occurred at the early age of fifty-one years.

EDITORIAL AND MISCELLANEOUS.

The Difficulty in Officering the Medical Corps of the Navy.

THE above is the subject of a most logical and exhaustive paper which we have received, and which was addressed to the Hon. Secretary of the Navy by Surgeon Wm. Maxwell Wood, Chief of the Bureau of Medicine and Surgery in the Navy Department. The arguments presented involve the whole question of the "staff line" controversy and are so clearly elaborated that none but the most bigoted can possibly ignore them.

It is highly probable that this is one of the very first questions which will be taken up in Congress at its next meeting, so that it is proper that the medical profession of the whole South should be fully advised of the issues and prepared to exert their influence with the various delegations in Congress. It is quite clear that this is the only means by which exact justice shall be done to the medical corps of the navy.

As matters now stand in the navy we should be quite inexcusable to our patrons were we not to warn them to admonish pupils they may have to abandon any idea of entering the navy. As things exist it would be a blight to their abilities and usefulness, and attended with personal humiliation. Were this question of undefined position and privilege settled by congressional action we could more honestly recommend any young man to a naval career, who chose to prepare himself for the Naval Board.

We speak earnestly and advisedly regarding this matter, as we have in mind the case of Surgeon Green, beside other points more lately developed, equally odious to the profession. It seems a most defective course of reasoning which places the medical profession first in social respectability, and we might say responsibility, and last or equivocal in military honors. We find the world ruled, with varied success, by votaries of law and theology, while medicine might be called the suggestive power. Were the latter an absolute element in the councils of nations

we are fully convinced that more general happiness would be secured. We have Nélaton and Bernard, now, as the first step, in the Senate of France, a position given them for their professional reputations.

In regard to Dr. Green's case, it will be remembered that the captain ordered him to remove from the sick list a man who was suffering from a wound of the scalp, which the doctor refused to do, considering it inhuman. In strict military law the latter was in error for refusing to obey his commander's order. It was his duty to have remonstrated. Yet there does seem to be a certain amount of extenuation in this seeming insubordination, when a malevolent captain attempts an exercise of his authority which involves a human life. Had the doctor simply remonstrated what would have been the probable result:—the captain would have given it his own endorsement before sending it to Washington, where it would have been forgotten in the pigeon-hole. It is presumable that this Capt. Selfridge is in favor there, for immediately after his small tyranny and humiliation of the doctor, he was sent out in command of an expedition to the Darien isthmus, to survey a waste for a ship canal, which by the way was a failure. How impossible it would have been to have brought a doughty commander like this to a court martial on the charge of inhumanity, for it would have stultified the whole scheme of staff humiliation and to medical irresponsibility!

The doctor adopted the shorter and more honorable plan of being court-martialed himself, and fully disclosed the captain's brutality in his defense. After this, while under sentence for his temerity he resigned.

In 1863 and 1864 a board composed of line officers proposed a scale of rank which gave the senior medical officers in our navy the rank of *commodore*. It was fair then and must be so now. At that time these officers adopted broad and liberal views, and it was not until the Borie-Porter reign that the degradation occurred as set forth in the celebrated order "No. 120." The rank and privilege granted by Secretary Welles during the war increased and regulated the previous rank, but was still only a regulation of the department, the justice of which those at present in power not only failed to recognize, but issued at once, as its almost first official act, the order of degradation mentioned. This gives the medical corps an uncertain, related rank to the line, utterly without privilege or responsibility. We have seen how useless this becomes in the discharge of duty, and thus unprotected the doctor becomes obnoxious to the wily malevolence of every unprincipled captain or executive officer.

Most of the difficulties met by the staff on board ship seem to arise with what is called the "executive officer." As this individual appears to be *sui generis* and of recent formation we will endeavor to give his natural history from what we have gathered for the benefit of those contemplating entering the medical corps.

He seems to exceed in power the "first lieutenant" of Marryat, who was the mouthpiece of the captain. In modern times he is second in command and a sort of go-between, from the captain to all the other officers, regardless of their age or service, though he may be a beardless youth. He takes precedence of any surgeon ashore or afloat, has power to refuse or grant as it suits his pleasure, can deny permission to see the captain upon the most vital subjects, and in case of a court martial, if he be an ensign—four grades below a commander—and a surgeon having this relative *shadow* of rank of a commander, be on the same court, this ensign signs his name first. This is according to recent regulations from the Navy Department. Should a commander junior to this "shadow" of the surgeon's be on the same court the surgeon signs his name first! Query—How will the commander and ensign arrange it in signing their names? What a perfect muddle!

The so-styled line executive is the captain's rival in the ship in point of style and grandeur. Like the captain he has a writer or clerk and servant for his exclusive use, likewise a boat and crew, and takes precedence of the old gray-bearded doctor or superior "shadow" (I use this word because it seems best to express the medical rank) on all occasions ashore and afloat. He even presides at medical surveys involving questions of pathology and pensions! Should this "second in command" be the captain's intellectual superior, he need not approach the character of a genius, to become in a short time *de facto* captain of the ship, from whose decision there is no appeal. The captain possibly weak and sybaritic, glad to be divested of all care, yields entirely, "sustains the executive," and woe-betide the young assistant surgeon who incurs the displeasure of so great, and yet so irresponsible a person.

Can we wonder that the medical corps of the navy is so unpopular? While hundreds are seeking admission to the army, the navy does not get a single application, except from those who are without qualification. The army suffered from these same horrid discords before they had positive rank granted them, while now the subject is never mentioned. The fifty vacancies which exist to-day in the medical corps of the navy, might, and would be filled were not this "lion in the path," viz: the uncertainty of privilege and protection in the discharge of professional duty, when serving with ignorant commanders.

Give the profession the assurances which are denied and the best young men in the country would enter the service. Abolish humiliating regulations, cease bolstering up weak and inefficient commanders, let those personally deal with the different departments of the ship, and finally let the idea be abandoned by those of the line who believe it, that the medical corps are disposed to insubordination, for their repeated utterances proclaim that they

have never claimed in their rank any independent authority. They seek through positive rank an earnest co-operation which is so essential to the usefulness, harmony and efficiency of every organization.

General Sherman, in his reply to a letter from Admiral Porter asking his opinion regarding this staff rank question, gives the following pithy solution: "The object of all rank is not so much to confer power or honor as to fix responsibility." Some of the naval line will be astonished to hear this from such high authority. Then rank does not simply command? The general also says, "the sixty-second article of war clearly establishes who is to command," and remarks: "Therefore (and it frequently happens) when a captain or lieutenant finds himself senior, he commands the whole, although there may be under him surgeons, paymasters, quartermasters, etc., with commissions of colonel or major, who must obey his orders. So long as a line officer is present for duty he must command. He cannot even waive it, for the government holds him personally responsible for whatever duty or enterprise the command may be engaged in."

The fallacious argument of the naval line can no longer stand that rank always carries command, and as in the army we would gladly see the naval staff have full advantages of their rank with this single exception of general command.

The U. S. navy, we imagine, is much like the Confederate army was in its medical organization, and we know how complete a nullity the privileges were notwithstanding the rank: the scabbard without the sword, the froth without the beer, the shadow without the substance. In the federal army, on the contrary, its medical officers in charge of hospitals enjoyed their commands, and never in the history of the world were hospitals conducted with more efficiency. The hospital guards were often commanded by line officers of high rank, but there is not on record, so far as we are aware, any occasion where either party troubled the command of the other. It is within the recollection of most of us when a hospital could not be established unless in charge of a line officer. The surgeon general of the U. S. army during the war exhibited his capability for command of sick, when it is known that there were at one time no less than two hundred thousand men in hospital!

If we were a little more democratic in our navy, it seems to us, it would become more harmonious. To have this in name and not in feeling belittles our patriotism, and there is nothing more inconsistent for those entertaining enlightened catholic views of the age than to encourage a distinction of caste among gentlemen of education, in the navy as it now exists, and which it is within our power to neutralize. This distinction is very rapidly working ruin and demoralization in the navy and so far affecting the staff esprit du corps, that neglect of courtesies, indifference to trusts and duties, will naturally breathe the breath of reproach and may become a common requiem of the degraded.

The extreme jealousy and ill-feeling which this question has engendered is shared by most line officers. The medical staff appeal to their brethren of the profession, as in common cause, against the usurpations of the line, so that their counsel may be felt in the fall elections; and let us have this naval question of fifty years' agitation settled forever. We have shown they ask nothing but simple justice at the hands of the people who are ever quick to decide upon facts. They ask the adoption of the true for the false; what is absolutely best for the service, instead of that which is working its ruin. Above all, to consider that however long justice may be delayed, or by whatever tortuous legislation beset, the form of justice cannot long be veiled, for it will be lifted by continual agitation.

Health of New Orleans.

ALTHOUGH there was an unusual amount of sickness in the city during the month of May, and fears were then entertained of an early visitation of yellow fever, it did not make its appearance till the middle of August. Until October 15th, all vessels arriving from certain ports designated as being infected, were subjected to a quarantine of fifteen days, including the time occupied in the voyage to the quarantine station. There is no evidence that any case of the fever has been introduced from abroad this year, nor could any of the earlier cases which occurred be traced to the shipping. There is no good reason to doubt that yellow fever this year has originated here in our midst, in the absence of the slightest evidence of its importation. The first death occurred August 19th, in the person of a young German woman, who had been in the city nine months. Eleven cases in all are recorded for this month, of which eight died and three recovered. All but three were natives of France and Germany, while Scotland, Sweden and the State of Missouri represent the nativities of these three.

It is to be remarked that the fever broke out in the Second District, in the rear of the French Market, and that it was almost entirely confined to this quarter for more than a month. About September 1st it began to attack people of Italian and Sicilian birth in this quarter—a class whose occupation was in and about the French Market, and whose hygienic condition in their domiciles is about the most unfavorable in the whole city.

From this centre the disease gradually extended to remote parts of the city, including in its assaults nearly all classes and nativities.

The following table exhibits the yellow fever mortality during the last twelve weeks, being based on the returns of interments at the several cemeteries :

(1) From August 22 to August 28.....	3
(2) From August 29 to September 4.....	1
(3) From September 5 to September 11.....	19
(4) From September 12 to September 18.....	52
(5) From September 19 to September 25.....	70
(6) From September 26 to October 2.....	89
(7) From October 3 to October 9.....	84
(8) From October 10 to October 16.....	60
(9) From October 17 to October 23.....	54
(10) From October 24 to October 30.....	44
(11) From October 31 to November 6.....	38
(12) From November 7 to November 13.....	38

Total 552

To this number is to be added the death on August 19th, previously mentioned, and two interred November 16th, thus bringing the record down to the date of this writing, November 17th.

Of the above the nationalities were:

Germany.....	119
Italy.....	107
France.....	88
United States.....	76
Ireland.....	46
England.....	19
Switzerland.....	16
Scotland.....	9
Wales.....	7
Prussia.....	7
British America.....	8
Other countries.....	50

Total 552

It is much to be desired that the rate of mortality in our visitations of yellow fever could be estimated with a fair degree of accuracy, but there cannot now be enough expectation joined to desire to furnish foundation for the hope. There is a health ordinance, which requires physicians, under a penalty, to report to the Board of Health all cases of this disease, and several others, whenever arising in their practice, within twenty-four hours of coming to a knowledge of them. Now mark the observance of this requirement the present year. The total number of cases which have come to the knowledge of the Board of Health this year is, to date, 756; and of these some were learned only through the burial certificates. How many recoveries were suppressed from publication can only be conjectured.

The cases treated in the several hospitals are, of course, there recorded, and may be ascertained hereafter; but, it is evidently out of the question to arrive at a close estimate of the cases treated in private practice.

After the epidemic of 1867, the writer made an estimate of the rate of mortality, taking as a basis the published report of the Howard Association, which was supposed to afford a fair mean between the highest mortality among the U. S. troops and at Charity Hospital and the most favorable results in private practice. The mortality in that epidemic was thus determined to be about eight *per cent*, or rather more than 3000 deaths in nearly 40,000 cases.

This year, with all reasonable allowance for cases not reported, the rate of mortality must have been much higher. From this it appears that our own home product—whether we call it creole or naturalized—yields not in malignancy to the varieties imported from Vera Cruz, from Havana, from Rio de Janeiro.

Efforts were early made, through officers of the Board of Health, to arrest the spread of the fever by thorough means of disinfection. After the termination of cases, in recovery or death, the apartments occupied by them, together with their contents, were subjected to fumigation with sulphurous acid and chlorine; and carbolic acid was freely used in the streets and gutters in the quarter where sickness had occurred. No positive evidence has been obtained from such trials this year. The plan was most vigorously carried out in the Second District, where the fever originated; and for a time the fever seemed to have experienced a check, especially among the population of Italian birth. This quarter has, however, continued to send large numbers to Charity Hospital. On the other hand disinfection was not practiced in the Sixth District, comprising that portion of the city above its recent limits, and only a half-dozen of cases are known to have occurred in that district.

There is reason to believe now that frost has effectually put a period to the yellow fever of 1870. But in these three months, with a prevalence far less than was apprehended in September, this hostile incursion has brought dismay upon our unacclimated population, has revived the evil reputation of our city, and has done incalculable damage to its commercial interests.

Death of Mobile Physicians.

WE learn that the present visitation of yellow fever has been marked by the death of four members of the profession in our Southern sister city. Drs. T. J. Burke, William Toxey, Dabney H. Herndon and Isaac W. Anderson have all fallen at the post of duty, which no true physician deserts in time of danger.

In answer to many inquiries concerning the January Number of the Journal for 1870 we would state that owing to an unexpected increase in our list of subscribers the issue for that month has been entirely exhausted.

Owing to circumstances entirely beyond the control of the proprietor this issue of the *Journal* has been unavoidably delayed. We feel assured however that punctuality for the future can be safely promised.

From this date all arrangements for commutation between this and other journals cease. We shall be pleased however at any time to receive and forward at the regular rates subscriptions to either the *European* or *American Medical Journals*.

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REVIEWS.

"Reports on the Progress of Practical and Scientific Medicine in Different Parts of the World. (For the year beginning June 1st, 1868, and ending June 1st, 1869.) Edited by Horace Dobell, M. D., senior physician to the Royal Hospital for diseases of the chest, etc., etc., assisted by numerous and distinguished coadjutors. London. Longman, Green, Reader & Dyer. 1870."

The general plan of the work is a good one, and if in the subsequent issues the materials be well condensed and no unnecessary matter be printed the yearly advent of a volume gotten up on this plan will be heartily welcomed. We regret to be obliged to state that the volume before us shows a departure from these conditions of success. The reader is obliged to wade through the very first articles only to learn that the Rev. H. Callaway, M. D., M. R. C., etc., of Springvale, Natal, is sorry that he is unable to assist the editor!! Next follow two other letters of hardly any more interest or value, and thus eight pages of good paper are wasted, to say nothing of the time and temper of the reader who has been cheated into praising them, and finds himself most provokingly "sold."

Next we have an ill-digested rambling "Report on the Climatology of Consumption, with special reference to Minnesota," which looks more like an advertisement of Minnesota advantages than a "Report on the Climatology of Consumption." It is written in the loose, stilted, sophomoric style, and presents absolutely nothing that has not been better said already, while many mere assertions are made, which are evidently prompted by old prejudices, and for the support of which no facts are adduced.

The efforts of this medical philosopher (!!) at "fine writing" become at times really refreshing, if they are not edifying. He speaks, for example, of a book which "coily induces you to follow its rippling stream, until suddenly it leaps from its rocky bed, and throwing back to you a kiss of rainbow-tinted spray, is soon lost in the forest." It is a pity the coquettish creature had not played a good joke on the author by running away with his manuscript at the same time. But, joking aside, can our editor expect the support of the profession if he exercises such poor discretion as to admit such stuff into a work of such pretensions? We trow not?

Other trashy papers—one in fact so trashy (all about colic from swigging quantities of sour cider) that even the editor feels it necessary to add an apologetic note to say that the author has promised "more systematic observations." It would have been much better to have waited for them.

At last—on the 38th page—we find a really valuable paper—the one by Dr. T. M. Madden, on "Change of Climate in the Treatment of Chronic Diseases." This paper is well worthy of perusal. It is a well written digest of the subject and gives exceedingly useful information and discriminative advice concerning the European health resorts.

Another good paper follows on "Pulmonary Consumption and its Treatment, by Balthazar W. Foster, M. D., Prof. of Medicine, Queen's College, Birmingham." If the professor's experiments meet with confirmation by others the profession will have made a decided advance in the treatment of this terrible malady.

After this valuable paper we have some more trash, and then comes a very good report by Vald. Rasmussen, M. D., etc., Copenhagen, on the views now held concerning, and the treatment of, pulmonary affections in Denmark and Sweden. This report is condensed, yet comprehensive, and well arranged.

Then again we wade through some more trash, but are rewarded with a short but decidedly valuable paper by the editor on "Food, Heat, Motion." It is a well condensed synopsis of the present status of science on the relations of food, heat and motion to each other.

And so the volume continues to the end, with a great deal that is useless—except to advertise the writers—and yet much that is highly valuable. For example, the report by Prof. Villemin, translated by George Gaskoin, Esq., concerning the various branches of medical science in France for the year ending June, 1869, more than compensates for the defect of the volume. For procuring this paper alone for us we might well forgive the author for presenting it in so much bad company. It covers too much ground for special review; and is so condensed that a synopsis, even if we had space for it, would not do it justice. We would advise the reader to purchase the volume, if only to procure a copy of this report for his library.

The report from Germany by Julius Althaus, M. D., M. R. C. P., etc., is also a valuable paper; as is also the report by H. Bigg, on Mechanical Appliances, Instruments and Inventions; and some others of lesser scope. S. L.

Practical Observations on the Aetiology, Pathology, Diagnosis and Treatment of Anal Fissure. By William Bodenhamer, A. M. M. D., Professor of the Diseases, Injuries and Malformations of the Rectum, Anus and Genito-Urinary Organs. Illustrated by numerous cases and drawings. New York: William Wood & Co., 61 Walker street. 1868.

A whole book on anal fissure!! A better title would be "A Treatise on Anal Fissure, diluted to the one hundredth degree," to adopt an analogous nomenclature to that employed in homœopathic medicine. The monograph form of medical literature is now being frequently resorted to merely as a form of advertisement. The object in view is to produce a volume in which a certain number of pages being the main consideration, the matter—weak as it usually is of itself—has to be subjected to a degree of dilution hardly less absurd than that of homœopathic medicaments. For example; the author takes over four pages to tell how Coyer considered the disease as essentially spasmodic contraction instead of regarding this spasmodic feature as the result, by no means invariable, of the irritation caused by the ulceration. He thus manages to make up over four pages from matter which should have occupied about four lines. He takes about *three pages* to say that the ulcers are not necessarily linear but generally so. (Pp. 44–46.) Nearly *five pages* are consumed in stating the fact of the interval between defecation and the pain which follows, and then he does not even offer an attempt at explanation.

Another method by which additional pages are manufactured is detected in the innumerable instances in which the same statement is repeated in different parts of the work. (See pages 89, 132, etc.)

The same pathology is thus made to do duty all through the volume, and a whole section of one chapter, headed "Physiology," is devoted in main part to this same department of the subject.

In section I, chapter I, ostensibly devoted to the history of the little sore, he discusses also the treatment (see page 10, "I would ask," etc., etc.) This is all, of course, repeated in its proper place and thus does double duty. By these means—together with blank pages between chapters, etc., etc.—a volume is actually achieved which will almost stand up by itself on a book-shelf.

The arrangement of the different parts of the work is wretched: for example—Chapter II purports to consider the "Classification and Description of Anal Fissure," and Section III

of that chapter discusses the "*Physical Exploration, Diagnosis and Prognosis.*" Under the head of temperament the author speaks of age, and indeed this disconnected feature presents itself all through the book.

The English is simply execrable. Hardly a page can be found without errors of which a school-boy should be ashamed. We would refer almost at random to the following pages as giving examples in point: 23, 27, 43, 48, 52, 53, 58, 59, 60, 62, 64, 66, 67, 71, 73, 74, 75, 76, 87, 90, 91, 93, 96, 98, 99, 101, etc., etc., etc.

On the whole then the book will be a useless encumbrance in the library. What matter it does contain is more accessible in the works on surgery in general, and more agreeably presented.

S. L.

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*"Tota philosophia frugifera et fructuosa, nec ulla pars ejus inculta
ac deserta sit."*—CICERO.

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